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JANUARY, 1956 VOL. 11, NO. 3

Galaxy

SCIENCE FICTION

ALL ORIGINAL STORIES · NO REPRINTS!

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Cover by EMSH Offering SEASON'S GREETINGS TO OUR READERS

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HOW NOW, GRAY CELL?

SOME time back, I wrote an editorial protesting the identifying of extra-sensory research with Dr. Rhine of Duke University, quarreled with his methods and declared that we should look elsewhere for developments.

Then I stuck my fingers in my ears. I needn't have braced myself — only a very few of those who wrote in objected and a good many were glad to learn they weren't alone in questioning Rhine's approach and findings. The editorial even induced some people to attempt their own research.

This is the part that has me puzzled and hesitant — puzzled because I haven't an idea of where to begin, hesitant because my own experiences with psi should be shared and yet I naturally am not a bit eager to be considered a crank, cultist or crackpot.

Well, look, before I talk myself out of it, let's get the incidents down fast.

During the war, when the news of the Battle of the Bulge came crashing in, the C. O. of my outfit gave us a this-is-it pep talk; all the might of the German army was massed against us, we were in danger of being driven into the sea, the war would go on indefinitely now, and so forth.

As orientation man, I had war maps by the dozen and was astonished that nobody was mentioning the huge fight between the Nazis and the Russians in, I think, Romania, at least twice as big if no more bitter than the Bulge. Letting people know about it would have reduced anxiety.

When I gave my orientation lecture, which was shortly after the C. O. had alarmed us, I said this was obviously a final desperate gamble and the end *had* to be near. "Oh, yeah?" challenged the first sergeant. "If you know so much, when'll the war be over?"

That was in December. What happened to me should interest researchers, for I felt an electric-chair shock, my muscles constricted, my eyes hurt furiously and my head built up a sudden shattering internal pressure, and I was overwhelmed by apprehension as the answer came out: "April 30th."

The first sergeant got me to bet $2.50. The actual date was May 8th and he collected, but

(*Continued on page 144*)

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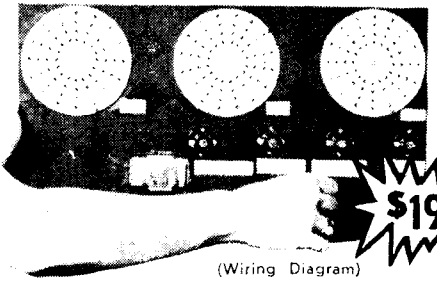

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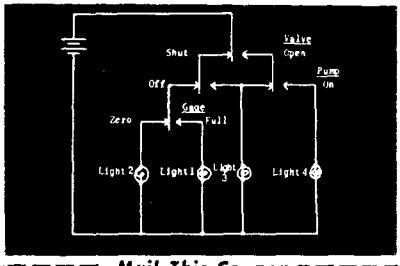

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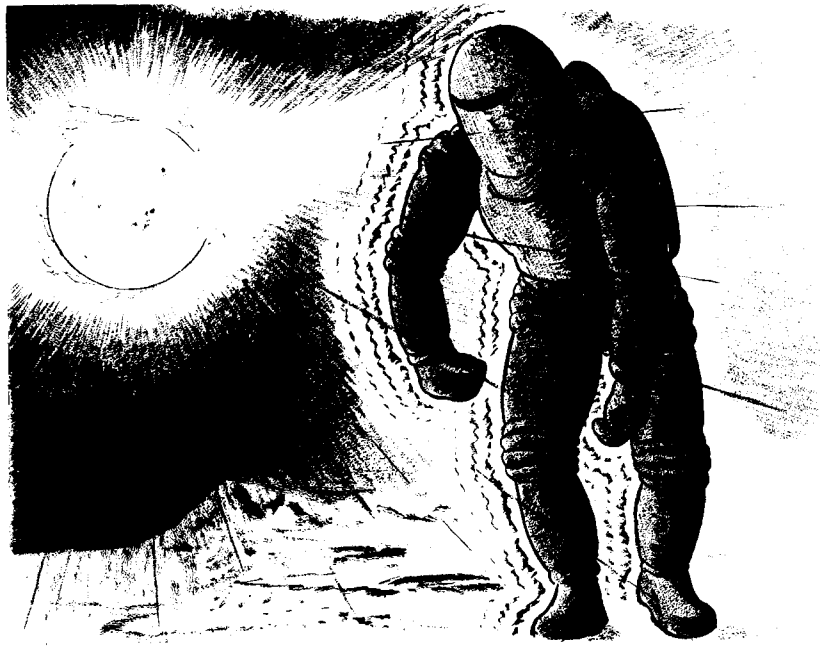
Brightside

The price has always been a life for a bit of knowledge — why should it change now?

JAMES BARON was not pleased to hear that he had had a visitor when he reached the Red Lion that evening. He had no stomach for mysteries, vast or trifling, and there were pressing things to think about at this time. Yet the doorman had flagged him as he came in from the street: "A thousand pardons, Mr. Baron. The gentleman — he would leave no



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Crossing

By ALAN E. NOURSE

Illustrated by HUNTER

name. He said you'd want to see him. He will be back by eight."

Baron drummed his fingers on the table top, staring about the quiet lounge. Street trade was discouraged at the Red Lion, gently but persuasively; the patrons were few in number. Across to the right was a group that Baron knew vaguely — Andean climbers, or at least two of them were. Over near the door he

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recognized old Balmer, who had mapped the first passage to the core of Vulcan Crater on Venus. Baron returned his smile with a nod. Then he settled back and waited impatiently for the intruder who demanded his time without justifying it.

Presently a small, grizzled man crossed the room and sat down at Baron's table. He was short and wiry. His face held no key to his age — he might have been thirty or a thousand — but he looked weary and immensely ugly. His cheeks and forehead were twisted and brown, with scars that were still healing.

The stranger said, "I'm glad you waited. I've heard you're planning to attempt the Brightside."

Baron stared at the man for a moment. "I see you can read telecasts," he said coldly. "The news was correct. We are going to make a Brightside Crossing."

"At perihelion?"

"Of course. When else?"

THE grizzled man searched Baron's face for a moment without expression. Then he said slowly, "No, I'm afraid you're not going to make the Crossing."

"Say, who are you, if you don't mind?" Baron demanded.

"The name is Claney," said the stranger.

There was a silence. Then: "Claney? *Peter* Claney?"

"That's right."

Baron's eyes were wide with excitement, all trace of anger gone. "My God, man — *where have you been hiding?* We've been trying to contact you for months!"

"I know. I was hoping you'd quit looking and chuck the whole idea."

"Quit looking!" Baron bent forward over the table. "My friend, we'd given up hope, but we've never quit looking. Here, have a drink. There's so much you can tell us." His fingers were trembling.

Peter Claney shook his head. "I can't tell you anything you want to hear."

"But you've *got* to. You're the only man on Earth who's attempted a Brightside Crossing and lived through it! And the story you cleared for the news — it was nothing. We need *details.* Where did your equipment fall down? Where did you miscalculate? What were the trouble spots?" Baron jabbed a finger at Claney's face. "That, for instance — epithelioma? Why? What was wrong with your glass? Your filters? We've got to know those things. If you can tell us, we can make it across where your attempt failed —"

"You want to know why we failed?" asked Claney.

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"Of course we want to know. We *have* to know."

"It's simple. We failed because it can't be done. We couldn't do it and neither can you. No human beings will ever cross the Brightside alive, not if they try for centuries."

"Nonsense," Baron declared. "We will."

Claney shrugged. "I was there. I know what I'm saying. You can blame the equipment or the men — there were flaws in both quarters — but we just didn't know what we were fighting. It was the *planet* that whipped us, that and the *Sun*. They'll whip you, too, if you try it."

"Never," said Baron.

"Let me tell you," Peter Claney said.

I'D BEEN interested in the Brightside for almost as long as I can remember (Claney said). I guess I was about ten when Wyatt and Carpenter made the last attempt — that was in 2082, I think. I followed the news stories like a tri-V serial and then I was heartbroken when they just disappeared.

I know now that they were a pair of idiots, starting off without proper equipment, with practically no knowledge of surface conditions, without any charts — they couldn't have made a hundred miles, snowflakes in hell —but I didn't know that then and it was a terrible tragedy. After that, I followed Sanderson's work in the Twilight Lab up there and began to get Brightside into my blood, sure as death.

But it was Mikuta's idea to attempt a Crossing. Did you ever know Tom Mikuta? I don't suppose you did. No, not Japanese — Polish-American. He was a major in the Interplanetary Service for some years and hung onto the title after he gave up his commission.

He was with Armstrong on Mars during his Service days, with a good deal of the original mapping and surveying for the Colony to his credit. I first met him on Venus; we spent five years together up there doing some of the nastiest exploring since the Matto Grasso. Then he made the attempt on Vulcan Crater that paved the way for Balmer a few years later.

I'd always liked the Major — he was big and quiet and cool, the sort of guy who always had things figured a little further ahead than anyone else and always knew what to do in a tight place. Too many men in this game are all nerve and luck, with no judgment. The Major had both. He also had the kind of personality that could take a crew of wild men and make them work like a well-oiled machine across

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a thousand miles of Venus jungle. I liked him and I trusted him.

He contacted me in New York and he was very casual at first. We spent an evening here at the Red Lion, talking about old times; he told me about the Vulcan business, and how he'd been out to see Sanderson and the Twilight Lab on Mercury, and how he preferred a hot trek to a cold one any day of the year — and then he wanted to know what I'd been doing since Venus and what my plans were.

"No particular plans," I told him. "Why?"

HE LOOKED me over. "How much do you weigh, Peter?"

I told him one-thirty-five.

"That much!" he said. "Be damned. Well, there can't be much fat on you, at any rate. How do you take heat?"

"You should know," I said. "Venus was no icebox."

"No, I mean *real* heat."

Then I began to get it. "You're planning a trip."

"That's right. A hot trip." He grinned at me. "Might be dangerous, too."

"What trip?"

"Brightside of Mercury," the Major said.

I whistled cautiously. "Aphelion?"

He threw his head back. "Why try a Crossing at Aphelion? What have you done then? Four thousand miles of butcherous heat, just to have some joker come along, use your data and drum you out of the glory by crossing at perihelion forty-four days later? No, thanks. I want the Brightside without any nonsense about it." He leaned across me eagerly. "I want to make a Crossing at perihelion and I want to cross on the surface. If a man can do that, he's got Mercury. Until then, *nobody's* got Mercury. I want Mercury — but I'll need help getting it."

I'd thought of it a thousand times and never dared consider it. Nobody had, since Wyatt and Carpenter disappeared. Mercury turns on its axis in the same time that it wheels around the Sun, which means that the Brightside is always facing in. That makes the Brightside of Mercury at perihelion the hottest place in the Solar System, with one single exception: the surface of the Sun itself.

It would be a hellish trek. Only a few men had ever learned just *how* hellish and they never came back to tell about it. It was a real hell's Crossing, but someday somebody would cross it.

I wanted to be along.

THE TWILIGHT LAB, near the northern pole of Mercury, was the obvious jumping-

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off place. The setup there wasn't very extensive — a rocket landing, the labs and quarters for Sanderson's crew sunk deep into the crust, and the tower that housed the Solar 'scope that Sanderson had built up there ten years before.

Twilight Lab wasn't particularly interested in the Brightside, of course — the Sun was Sanderson's baby and he'd picked Mercury as the closest chunk of rock to the Sun that could hold his observatory. He'd chosen a good location, too. On Mercury, the Brightside temperature hits 770° F. at perihelion and the Darkside runs pretty constant at -410° F. No permanent installation with a human crew could survive at either extreme. But with Mercury's wobble, the twilight zone between Brightside and Darkside offers something closer to survival temperatures.

Sanderson built the Lab up near the pole, where the zone is about 5 miles wide, so the temperature only varies 50 to 60 degrees with the libration. The Solar 'scope could take that much change and they'd get good clear observation of the Sun for about 70 out of the 88 days it takes the planet to wheel around.

The Major was counting on Sanderson knowing something about Mercury as well as the Sun when we camped at the Lab to make final preparations.

Sanderson did. He thought we'd lost our minds and he said so, but he gave us all the help he could. He spent a week briefing Jack Stone, the third member of our party, who had arrived with the supplies and equipment a few days earlier. Poor Jack met us at the rocket landing almost bawling, Sanderson had given him such a gloomy picture of what Brightside was like.

Stone was a youngster — hardly 25, I'd say — but he'd been with the Major at Vulcan and had begged to join this trek. I had a funny feeling that Jack really didn't care for exploring too much, but he thought Mikuta was God, followed him around like a puppy.

It didn't matter to me as long as he knew what he was getting in for. You don't go asking people in this game why they do it — they're liable to get awfully uneasy and none of them can ever give you an answer that makes sense. Anyway, Stone had borrowed three men from the Lab, and had the supplies and equipment all lined up when we got there, ready to check and test.

WE DUG RIGHT in. With plenty of funds — tri-V money and some government cash the Major had talked his way around — our equipment was

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new and good. Mikuta had done the designing and testing himself, with a big assist from Sanderson. We had four Bugs, three of them the light pillow-tire models, with special lead-cooled cut-in engines when the heat set in, and one heavy-duty tractor model for pulling the sledges.

The Major went over them like a kid at the circus. Then he said, "Have you heard anything from McIvers?"

"Who's he?" Stone wanted to know.

"He'll be joining us. He's a good man — got quite a name for climbing, back home." The Major turned to me. "You've probably heard of him."

I'd heard plenty of stories about Ted McIvers and I wasn't too happy to hear that he was joining us. "Kind of a daredevil, isn't he?"

"Maybe. He's lucky and skillful. Where do you draw the line? We'll need plenty of both."

"Have you ever worked with him?" I asked.

"No. Are you worried?"

"Not exactly. But Brightside is no place to count on luck."

The Major laughed. "I don't think we need to worry about McIvers. We understood each other when I talked up the trip to him and we're going to need each other too much to do any fooling around." He turned back to the supply list. "Meanwhile, let's get this stuff listed and packed. We'll need to cut weight sharply and our time is short. Sanderson says we should leave in three days."

Two days later, McIvers hadn't arrived. The Major didn't say much about it: Stone was getting edgy and so was I. We spent the second day studying charts of the Brightside, such as they were. The best available were pretty poor, taken from so far out that the detail dissolved into blurs on blow-up. They showed the biggest ranges of peaks and craters and faults, and that was all. Still, we could use them to plan a broad outline of our course.

"This range here," the Major said as we crowded around the board, "is largely inactive, according to Sanderson. But these to the south and west *could* be active. Seismograph tracings suggest a lot of activity in that region, getting worse down toward the equator — not only volcanic, but sub-surface shifting."

STONE NODDED. "Sanderson told me there was probably constant surface activity."

The Major shrugged. "Well, it's treacherous, there's no doubt of it. But the only way to avoid it is to travel over the Pole, which would lose us days and offer us no guarantee of less activity to

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the west. Now we might avoid some if we could find a pass through this range and cut sharp east —"

It seemed that the more we considered the problem, the further we got from a solution. We knew there were active volcanoes on the Brightside — even on the Darkside, though surface activity there was pretty much slowed down and localized.

But there were problems of atmosphere on Brightside, as well. There *was* an atmosphere and a constant atmospheric flow from Brightside to Darkside. Not much — the lighter gases had reached escape velocity and disappeared from Brightside millenia ago — but there was CO_2, and nitrogen, and traces of other heavier gases. There was also an abundance of sulfur vapor, as well as carbon disulfide and sulfur dioxide.

The atmospheric tide moved toward the Darkside, where it condensed, carrying enough volcanic ash with it for Sanderson to estimate the depth and nature of the surface upheavals on Brightside from his samplings. The trick was to find a passage that avoided those upheavals as far as possible. But in the final analysis, we were barely scraping the surface. The only way we would find out what was happening where was to be there.

Finally, on the third day, McIvers blew in on a freight rocket from Venus. He'd missed the ship that the Major and I had taken by a few hours, and had conned his way to Venus in hopes of getting a hop from there. He didn't seem too upset about it, as though this were his usual way of doing things and he couldn't see why everyone should get so excited.

He was a tall, rangy man with long, wavy hair prematurely gray, and the sort of eyes that looked like a climber's — half-closed, sleepy, almost indolent, but capable of abrupt alertness. And he never stood still; he was always moving, always doing something with his hands, or talking, or pacing about.

Evidently the Major decided not to press the issue of his arrival. There was still work to do, and an hour later we were running the final tests on the pressure suits. That evening, Stone and McIvers were thick as thieves, and everything was set for an early departure after we got some rest.

"AND THAT," said Baron, finishing his drink and signaling the waiter for another pair, "was your first big mistake."

Peter Claney raised his eyebrows. "McIvers?"

"Of course."

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Claney shrugged, glanced at the small quiet tables around them. "There are lots of bizarre personalities around a place like this, and some of the best wouldn't seem to be the most reliable at first glance. Anyway, personality problems weren't our big problem right then. *Equipment* worried us first and *route* next."

Baron nodded in agreement. "What kind of suits did you have?"

"The best insulating suits ever made," said Claney. "Each one had an inner lining of a fiberglass modification, to avoid the clumsiness of asbestos, and carried the refrigerating unit and oxygen storage which we recharged from the sledges every eight hours. Outer layer carried a monomolecular chrome reflecting surface that made us glitter like Christmas trees. And we had a half-inch dead-air space under positive pressure between the two layers. Warning thermocouples, of course — at 770 degrees, it wouldn't take much time to fry us to cinders if the suits failed somewhere."

"How about the Bugs?"

"They were insulated, too, but we weren't counting on them too much for protection."

"You weren't!" Baron exclaimed. "Why not?"

"We'd be in and out of them too much. They gave us mobility and storage, but we knew we'd have to do a lot of forward work on foot." Claney smiled bitterly. "Which meant that we had an inch of fiberglass and a half-inch of dead air between us and a surface temperature where lead flowed like water and zinc was almost at melting point and the pools of sulfur in the shadows were boiling like oatmeal over a campfire."

Baron licked his lips. His fingers stroked the cool, wet glass as he set it down on the tablecloth.

"Go on," he said tautly. "You started on schedule?"

"Oh, yes," said Claney, "we started on schedule, all right. We just didn't quite end on schedule, and that was all. But I'm getting to that."

He settled back in his chair and continued.

WE JUMPED off from Twilight on a course due southeast with thirty days to make it to the Center of Brightside. If we could cross an average of 70 miles a day, we could hit Center exactly at perihelion, the point of Mercury's closest approach to the Sun — which made Center the hottest part of the planet at the hottest it ever gets.

The Sun was already huge and yellow over the horizon when we

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started, twice the size it appears on Earth. Every day that Sun would grow bigger and whiter, and every day the surface would get hotter. But once we reached Center, the job was only half done — we would still have to travel another 2000 miles to the opposite twilight zone. Sanderson was to meet us on the other side in the Laboratory's scout ship, approximately 60 days from the time we jumped off.

That was the plan, in outline. It was up to us to cross those seventy miles a day, no matter how hot it became, no matter what terrain we had to cross. Detours would be dangerous and time-consuming. Delays could cost us our lives. We all knew that.

The Major briefed us on details an hour before we left. "Peter, you'll take the lead Bug, the small one we stripped down for you. Stone and I will flank you on either side, giving you a hundred-yard lead. McIvers, you'll have the job of dragging the sledges, so we'll have to direct your course pretty closely. Peter's job is to pick the passage at any given point. If there's any doubt of safe passage, we'll all explore ahead on foot before we risk the Bugs. Got that?"

McIvers and Stone exchanged glances. McIvers said: "Jack and I were planning to change around. We figured he could take the sledges. That would give me a little more mobility."

THE Major looked up sharply at Stone. "Do you buy that, Jack?"

Stone shrugged. "I don't mind. Mac wanted —"

McIvers made an impatient gesture with his hands. "It doesn't matter. I just feel better when I'm on the move. Does it make any difference?"

"I guess it doesn't," said the Major. "Then you'll flank Peter along with me. Right?"

"Sure, sure." McIvers pulled at his lower lip. "Who's going to do the advance scouting?"

"It sounds like I am," I cut in. "We want to keep the lead Bug light as possible."

Mikuta nodded. "That's right. Peter's Bug is stripped down to the frame and wheels."

McIvers shook his head. "No, I mean the *advance* work. You need somebody out ahead — four or five miles, at least — to pick up the big flaws and active surface changes, don't you?" He stared at the Major. "I mean, how can we tell what sort of a hole we may be moving into, unless we have a scout up ahead?"

"That's what we have the charts for," the Major said sharply.

"Charts! I'm talking about *de-*

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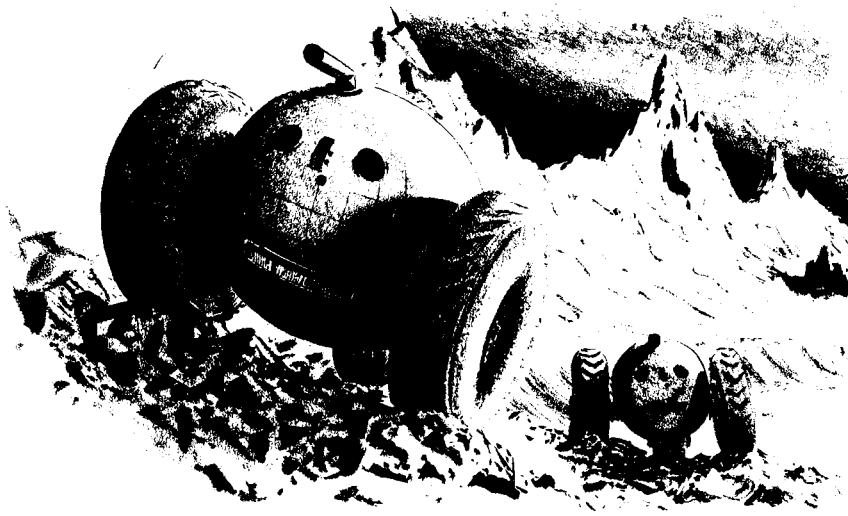

tail work. We don't need to worry about the major topography. It's the little faults you can't see on the pictures that can kill us." He tossed the charts down excitedly. "Look, let me take a Bug out ahead and work reconnaissance, keep five, maybe ten miles ahead of the column. I can stay on good solid ground, of course, but scan the area closely and radio back to Peter where to avoid the flaws. Then —"

"No dice," the Major broke in.

"But why not? We could save ourselves days!"

"I don't care what we could save. We stay together. When we get to the Center, I want live men along with me. That means we stay within easy sight of each other at all times. Any climber knows that everybody is safer in a party than one man alone — anytime, anyplace."

McIvers stared at him, his cheeks an angry red. Finally he gave a sullen nod. "Okay. If you say so."

"Well, I say so and I mean it. I don't want any fancy stuff. We're going to hit Center together, and finish the Crossing together. Got that?"

McIvers nodded. Mikuta then looked at Stone and me and we nodded, too.

"All right," he said slowly. "Now that we've got it straight, let's go."

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IT WAS HOT. If I forget everything else about that trek, I'll never forget that huge yellow Sun glaring down, without a break, hotter and hotter with every mile. We knew that the first few days would be the easiest and we were rested and fresh when we started down the long ragged gorge southeast of the Twilight Lab.

I moved out first; back over my shoulder, I could see the Major and McIvers crawling out behind me, their pillow tires taking the rugged floor of the gorge smoothly. Behind them, Stone dragged the sledges.

Even at only 30 per cent Earth gravity they were a strain on the big tractor, until the ski-blades bit into the fluffy volcanic ash blanketing the valley. We even had a path to follow for the first 20 miles.

I kept my eyes pasted to the big polaroid binocs, picking out the track the early research teams had made out into the edge of Brightside. But in a couple of hours we rumbled past Sanderson's little outpost observatory and the tracks stopped. We were in virgin territory and already the Sun was beginning to bite.

We didn't *feel* the heat so much those first days out. We *saw* it. The refrig units kept our skins at a nice comfortable 75° F. in-

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side our suits, but our eyes watched that glaring Sun and the baked yellow rocks going past, and some nerve pathways got twisted up, somehow. We poured sweat as if we were in a superheated furnace.

We drove eight hours and slept five. When a sleep period came due, we pulled the Bugs together into a square, threw up a light aluminum sun-shield and lay out in the dust and rocks. The sun-shield cut the temperature down 60 or 70 degrees, for whatever help that was. And then we ate from the forward sledge — sucking through tubes — protein, carbohydrates, bulk gelatin, vitamins.

The Major measured water out with an iron hand, because we'd have drunk ourselves into nephritis in a week otherwise. We were constantly, unceasingly thirsty. Ask the physiologists and psychiatrists why — they can give you half a dozen interesting reasons — but all we knew, or cared about, was that it happened to be so.

We didn't sleep the first few stops, as a consequence. Our eyes burned in spite of the filters and we had roaring headaches, but we couldn't sleep them off. We sat around looking at each other. Then McIvers would say how good a beer would taste, and off we'd go. We'd have butchered our grandmothers for one ice-cold bottle of beer.

AFTER A few driving periods, I began to get my bearings at the wheel. We were moving down into desolation that made Earth's old Death Valley look like a Japanese rose garden. Huge sun-baked cracks opened up in the floor of the gorge, with black cliffs jutting up on either side; the air was filled with a barely visible yellowish mist of sulfur and sulfurous gases.

It was a hot, barren hell-hole, no place for any man to go, but the challenge was so powerful you could almost feel it. No one had ever crossed this land before and escaped. Those who had tried it had been cruelly punished, but the land was still there, so it had to be crossed. Not the easy way. It had to be crossed the hardest way possible: overland, through anything the land could throw up to us, at the most difficult time possible.

Yet we knew that even the land might have been conquered before, except for that Sun. We'd fought absolute cold before and won. We'd never fought heat like this and won. The only worse heat in the Solar System was the surface of the Sun itself.

Brightside was worth trying for. We would get it or it would get us. That was the bargain.

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I learned a lot about Mercury those first few driving periods. The gorge petered out after a hundred miles and we moved onto the slope of a range of ragged craters that ran south and east. This range had shown no activity since the first landing on Mercury forty years before, but beyond it there were active cones. Yellow fumes rose from the craters constantly; their sides were shrouded with heavy ash.

We couldn't detect a wind, but we knew there was a hot, sulfurous breeze sweeping in great continental tides across the face of the planet. Not enough for erosion, though. The craters rose up out of jagged gorges, huge towering spears of rock and rubble. Below were the vast yellow flatlands, smoking and hissing from the gases beneath the crust. Over everything was gray dust — silicates and salts, pumice and limestone and granite ash, filling crevices and declivities — offering a soft, treacherous surface for the Bug's pillow tires.

I learned to read the ground, to tell a covered fault by the sag of the dust; I learned to spot a passable crack, and tell it from an impassable cut. Time after time the Bugs ground to a halt while we explored a passage on foot, tied together with light copper cable, digging, advancing, digging some more until we were sure the surface would carry the machines. It was cruel work; we slept in exhaustion. But it went smoothly, at first.

Too smoothly, it seemed to me, and the others seemed to think so, too.

McIVERS' restlessness was beginning to grate on our nerves. He talked too much, while we were resting or while we were driving; wisecracks, witticisms, unfunny jokes that wore thin with repetition. He took to making side trips from the route now and then, never far, but a little further each time.

Jack Stone reacted quite the opposite; he grew quieter with each stop, more reserved and apprehensive. I didn't like it, but I figured that it would pass off after a while. I was apprehensive enough myself; I just managed to hide it better.

And every mile the Sun got bigger and whiter and higher in the sky and hotter. Without our ultra-violet screens and glare filters we would have been blinded; as it was our eyes ached constantly and the skin on our faces itched and tingled at the end of an eight-hour trek.

But it took one of those side trips of McIvers' to deliver the penultimate blow to our already fraying nerves. He had driven down a side-branch of a long can-

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yon running off west of our route and was almost out of sight in a cloud of ash when we heard a sharp cry through our earphones.

I wheeled my Bug around with my heart in my throat and spotted him through the binocs, waving frantically from the top of his machine. The Major and I took off, lumbering down the gulch after him as fast as the Bugs could go, with a thousand horrible pictures racing through our minds. . .

We found him stand stock-still, pointing down the gorge and, for once, he didn't have anything to say. It was the wreck of a Bug; an old-fashioned half-truck model of the sort that hadn't been in use for years. It was wedged tight in a cut in the rock, an axle broken, its casing split wide open up the middle, half-buried in a rock slide. A dozen feet away were two insulated suits with white bones gleaming through the fiberglass helmets.

This was as far as Wyatt and Carpenter had gotten on *their* Brightside Crossing.

ON THE fifth driving period out, the terrain began to change. It looked the same, but every now and then it *felt* different. On two occasions I felt my wheels spin, with a howl of protest from my engine. Then, quite suddenly, the Bug gave a lurch; I gunned my motor and nothing happened.

I could see the dull gray stuff seeping up around the hubs, thick and tenacious, splattering around in steaming gobs as the wheels spun. I knew what had happened the moment the wheels gave and, a few minutes later, they chained me to the tractor and dragged me back out of the mire. It looked for all the world like thick gray mud, but it was a pit of molten lead, steaming under a soft layer of concealing ash.

I picked my way more cautiously then. We were getting into an area of recent surface activity; the surface was really treacherous. I caught myself wishing that the Major had okayed McIvers' scheme for an advanced scout; more dangerous for the individual, maybe, but I was driving blind now and I didn't like it.

One error in judgment could sink us all, but I wasn't thinking much about the others. I was worried about *me*, plenty worried. I kept thinking, better McIvers should go than me. It wasn't healthy thinking and I knew it, but I couldn't get the thought out of my mind.

It was a grueling eight hours and we slept poorly. Back in the Bug again, we moved still more slowly — edging out on a broad flat plateau, dodging a network of gaping surface cracks — wind-

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ing back and forth in an effort to keep the machines on solid rock. I couldn't see far ahead, because of the yellow haze rising from the cracks, so I was almost on top of it when I saw a sharp cut ahead where the surface dropped six feet beyond a deep crack.

I let out a shout to halt the others; then I edged my Bug forward, peering at the cleft. It was deep and wide. I moved fifty yards to the left, then back to the right.

There was only one place that looked like a possible crossing; a long, narrow ledge of gray stuff that lay down across a section of the fault like a ramp. Even as I watched it, I could feel the surface crust under the Bug trembling and saw the ledge shift over a few feet.

The Major's voice sounded in my ears. "How about it, Peter?"

"I don't know. This crust is on roller skates," I called back.

"How about that ledge?"

I hesitated. "I'm scared of it, Major. Let's backtrack and try to find a way around."

There was a roar of disgust in my earphones and McIvers' Bug suddenly lurched forward. It rolled down past me, picked up speed, with McIvers hunched behind the wheel like a race driver. He was heading past me straight for the gray ledge.

MY SHOUT caught in my throat; I heard the Major take a huge breath and roar: "My God, Mac, *stop that thing*, you fool!" and then McIvers' Bug was out on the ledge, lumbering across like a juggernaut.

The ledge jolted as the tires struck it; for a horrible moment, it seemed to be sliding out from under the machine. And then the Bug was across in a cloud of dust, and I heard McIvers' voice in my ears, shouting in glee. "Come on, you slowpokes. It'll hold you!"

Something unprintable came through the earphones as the Major drew up alongside me and moved his Bug out on the ledge slowly and over to the other side. Then he said, "Take it slow, Peter. Then give Jack a hand with the sledges." His voice sounded tight as a wire.

Ten minutes later, we were on the other side of the cleft. The Major checked the whole column; then he turned on McIvers angrily. "One more trick like that," he said, "and I'll strap you to a rock and leave you. Do you understand me? *One more time* —"

McIvers' voice was heavy with protest. "Good Lord, if we leave it up to Claney, he'll have us out here forever! Any blind fool could see that that ledge would hold."

"*I* saw it moving," I shot back at him.

"All right, all right, so you've

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got good eyes. Why all the fuss? We got across, didn't we? But I say we've got to have a little nerve and use it once in a while if we're ever going to get across this lousy hotbox."

"We need to use a little judgment, too," the Major snapped. "All right, let's roll. But if you think I was joking, you just try me out once." He let it soak in for a minute. Then he geared his Bug on around to my flank again.

At the stopover, the incident wasn't mentioned again, but the Major drew me aside just as I was settling down for sleep. "Peter, I'm worried," he said slowly.

"McIvers? Don't worry. He's not as reckless as he seems — just impatient. We are over a hundred miles behind schedule and we're moving awfully slow. We only made forty miles this last drive."

The Major shook his head. "I don't mean McIvers. I mean the kid."

"Jack? What about him?"

"Take a look."

STONE WAS shaking. He was over near the tractor — away from the rest of us — and he was lying on his back, but he wasn't asleep. His whole body was shaking, convulsively. I saw him grip an outcropping of rock hard.

I walked over and sat down beside him. "Get your water all right?" I said.

He didn't answer. He just kept on shaking.

"Hey, boy," I said. "What's the trouble?"

"It's hot," he said, choking out the words.

"Sure it's hot, but don't let it throw you. We're in really good shape."

"*We're not,*" he snapped. "We're in rotten shape, if you ask me. *We're not going to make it,* do you know that? That crazy fool's going to kill us for sure —" *All of a sudden, he was bawling* like a baby. "I'm scared — I shouldn't be here — I'm *scared.* What am I trying to prove by coming out here, for God's sake? I'm some kind of hero or something? I tell you I'm scared —"

"Look," I said. "Mikuta's scared, *I'm* scared. So what? We'll make it, don't worry. And nobody's trying to be a hero."

"Nobody but Hero Stone," he said bitterly. He shook himself and gave a tight little laugh. "Some hero, eh?"

"We'll make it," I said.

"Sure," he said finally. "Sorry. I'll be okay."

I rolled over, but waited until he was good and quiet. Then I tried to sleep, but I didn't sleep too well. I kept thinking about that ledge. I'd known from the

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look of it what it was; a zinc slough of the sort Sanderson had warned us about, a wide sheet of almost pure zinc that had been thrown up white-hot from below, quite recently, just waiting for oxygen or sulfur to rot it through.

I knew enough about zinc to know that at these temperatures it gets brittle as glass. Take a chance like McIvers had taken and the whole sheet could snap like a dry pine board. But it wasn't McIvers' fault that it hadn't.

FIVE HOURS later, we were back at the wheel. We were hardly moving at all. The ragged surface was almost impassable — great jutting rocks peppered the plateau; ledges crumbled the moment my tires touched them; long, open canyons turned into lead-mires or sulfur pits.

A dozen times I climbed out of the Bug to prod out an uncertain area with my boots and pikestaff. Whenever I did, McIvers piled out behind me, running ahead like a schoolboy at the fair, then climbing back again red-faced and panting, while we moved the machines ahead another mile or two.

Time was pressing us now and McIvers wouldn't let me forget it. We had made only about 320 miles in six driving periods, so we were about a hundred miles or even more behind schedule.

"We're not going to make it," McIvers would complain angrily. "That Sun's going to be out to aphelion by the time we hit the Center —"

"Sorry, but I can't take it any faster," I told him. I was getting good and mad. I knew what he wanted, but didn't dare let him have it. I was scared enough pushing the Bug out on those ledges, even knowing that at least *I* was making the decisions. Put him in the lead and we wouldn't last for eight hours. Our nerves wouldn't take it, at any rate, even if the machines would.

Jack Stone looked up from the aluminum chart sheets. "Another hundred miles and we should hit a good stretch," he said. "Maybe we can make up distance there for a couple of days."

The Major agreed, but McIvers couldn't hold his impatience. He kept staring up at the Sun as if he had a personal grudge against it and stamped back and forth under the sunshield. "That'll be just fine," he said. "*If* we ever get that far, that is."

We dropped it there, but the Major stopped me as we climbed aboard for the next run. "That guy's going to blow wide open if we don't move faster, Peter. I don't want him in the lead, no matter what happens. He's right

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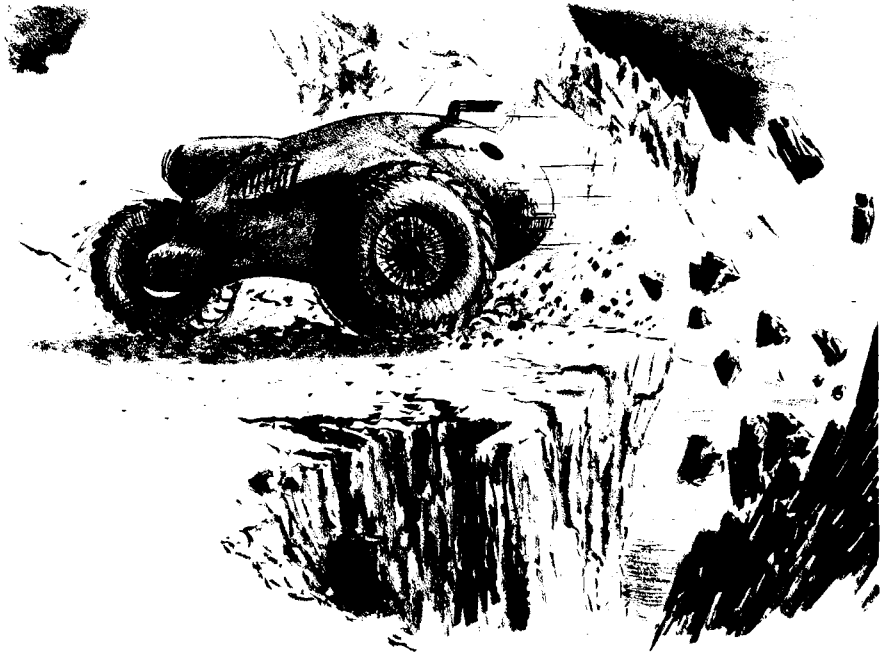
though, about the need to make better time. Keep your head, but crowd your luck a little, okay?"

"I'll try," I said. It was asking the impossible and Mikuta knew it. We were on a long downward slope that shifted and buckled all around us, as though there were a molten underlay beneath the crust; the slope was broken by huge crevasses, partly covered with dust and zinc sheeting, like a vast glacier of stone and metal. The outside temperature registered 547° F. and getting hotter. It was no place to start rushing ahead.

I TRIED IT anyway. I took half a dozen shaky passages, edging slowly out on flat zinc ledges, then toppling over and across. It seemed easy for a while and we made progress. We hit an even stretch and raced ahead. And then I quickly jumped on my brakes and jerked the Bug to a halt in a cloud of dust.

I'd gone too far. We were out on a wide, flat sheet of gray stuff,



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apparently solid — until I'd suddenly caught sight of the crevasse beneath in the corner of my eye. It was an overhanging shell that trembled under me as I stopped.

McIvers' voice was in my ear. "What's the trouble now, Claney?"

"Move back!" I shouted. "It can't hold us!"

"Looks solid enough from here."

"You want to argue about it? It's too thin, it'll snap. Move back!"

I started edging back down the ledge. I heard McIvers swear; then I saw his Bug start to creep *outward* on the shelf. Not fast or reckless, this time, but slowly, churning up dust in a gentle cloud behind him.

I just stared and felt the blood rush to my head. It seemed so hot I could hardly breathe as he edged out beyond me, further and further —

I think I felt it snap before I saw it. My own machine gave a sickening lurch and a long black

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crack appeared across the shelf — and widened. Then the ledge began to upend. I heard a scream as McIvers' Bug rose up and up and then crashed down into the crevasse in a thundering slide of rock and shattered metal.

I just stared for a full minute, I think. I couldn't move until I heard Jack Stone groan and the Major shouting, "Claney! I couldn't see — *what happened?*"

"It snapped on him, that's what happened," I roared. I gunned my motor, edged forward toward the fresh broken edge of the shelf. The crevasse gaped; I couldn't see any sign of the machine. Dust was still billowing up blindingly from below.

We stood staring down, the three of us. I caught a glimpse of Jack Stone's face through his helmet. It wasn't pretty.

"Well," said the Major heavily, "that's that."

"I guess so." I felt the way Stone looked.

"Wait," said Stone. "I heard something."

He had. It was a cry in the earphones — faint, but unmistakable.

"Mac!" The Major called. "Mac, can you hear me?"

"Yeah, yeah. I can hear you." The voice was very weak.

"Are you all right?"

"I don't know. Broken leg, I think. It's — hot." There was a long pause. Then: "I think my cooler's gone out."

THE Major shot me a glance, then turned to Stone. "Get a cable from the second sledge fast. He'll fry alive if we don't get him out of there. Peter, I need you to lower me. Use the tractor winch."

I lowered him; he stayed down only a few moments. When I hauled him up, his face was drawn. "Still alive," he panted. "He won't be very long, though." He hesitated for just an instant. "We've got to make a try."

"I don't like this ledge," I said. "It's moved twice since I got out. Why not back off and lower him a cable?"

"No good. The Bug is smashed and he's inside it. We'll need torches and I'll need one of you to help." He looked at me and then gave Stone a long look. "Peter, you'd better come."

"Wait," said Stone. His face was very white. "Let me go down with you."

"Peter is lighter."

"I'm not so heavy. Let me go down."

"Okay, if that's the way you want it." The Major tossed him a torch. "Peter, check these hitches and lower us slowly. If you see any kind of trouble, *anything*, cast yourself free and back off this thing, do you understand?

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This whole ledge may go."

I nodded. "Good luck."

They went over the ledge. I let the cable down bit by bit until it hit two hundred feet and slacked off.

"How does it look?" I shouted.

"Bad," said the Major. "We'll have to work fast. This whole side of the crevasse is ready to crumble. Down a little more."

Minutes passed without a sound. I tried to relax, but I couldn't. Then I felt the ground shift, and the tractor lurched to the side.

The Major shouted, *"It's going, Peter — pull back!"* and I threw the tractor into reverse, jerked the controls as the tractor rumbled off the shelf. The cable snapped, coiled up in front like a broken clockspring. The whole surface under me was shaking wildly now; ash rose in huge gray clouds. Then, with a roar, the whole shelf lurched and slid sideways. It teetered on the edge for seconds before it crashed into the crevasse, tearing the side wall down with it in a mammoth slide. I jerked the tractor to a halt as the dust and flame billowed up.

They were gone — all three of them, McIvers and the Major and Jack Stone — buried under a thousand tons of rock and zinc and molten lead. There wasn't any danger of anybody ever finding their bones.

PETER Claney leaned back, finishing his drink, rubbing his scarred face as he looked across at Baron.

Slowly, Baron's grip relaxed on the chair arm. "*You* got back," he said.

Claney nodded. "I got back, sure. I had the tractor and the sledges. I had seven days to drive back under that yellow Sun. I had plenty of time to think."

"You took the wrong man along," Baron said. "That was your mistake. Without him you would have made it."

"Never." Claney shook his head. "That's what I was thinking the first day or so — that it was *McIvers'* fault, that *he* was to blame. But that isn't true. He was wild, reckless and had lots of nerve."

"But his judgment was bad!"

"It couldn't have been sounder. We had to keep to our schedule even if it killed us, because it would positively kill us if we didn't."

"But a man like that —"

"A man like McIvers was necessary. Can't you see that? It was the Sun that beat us, that surface. Perhaps we were licked the very day we started." Claney leaned across the table, his eyes pleading. "We didn't realize that, but it was *true*. There are places that men can't go, conditions men can't tolerate. The others had to

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die to learn that. I was lucky, I came back. But I'm trying to tell you what I found out — that *nobody* will ever make a Brightside Crossing."

"We will," said Baron. "It won't be a picnic, but we'll make it."

"But suppose you do," said Claney, suddenly. "Suppose I'm all wrong, suppose you *do* make it. Then what? *What comes next?*"

"The Sun," said Baron.

Claney nodded slowly. "Yes. That would be it, wouldn't it?" He laughed. "Good-by, Baron. Jolly talk and all that. Thanks for listening."

Baron caught his wrist as he started to rise. "Just one question more, Claney. Why did you come here?"

"To try to talk you out of killing yourself," said Claney.

"You're a liar," said Baron.

Claney stared down at him for a long moment. Then he crumpled in the chair. There was defeat in his pale blue eyes and something else.

"Well?"

Peter Claney spread his hands, a helpless gesture. "When do you leave, Baron? I want you to take me along."

— ALAN E. NOURSE

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The Dwindling Years

He didn't expect to be last—but neither did he anticipate the horror of being the first!

By LESTER DEL REY

NEARLY TWO hundred years of habit carried the chairman of Exodus Corporation through the morning ritual of crossing the executive floor. Giles made the expected comments, smiled the proper smiles and greeted his staff by the right names, but it was purely automatic. Somehow, thinking had grown difficult in the mornings recently.

Inside his private office, he dropped all pretense and slumped into the padding of his chair, gasping for breath and feeling his heart hammering in his chest. He'd been a fool to come to work, he realized. But with the Procyon shuttle arriving yesterday, there was no telling what might turn up. Besides, that fool of a medicist had sworn the shot would cure any allergy or asthma.

Illustrated by JOHNS

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Giles heard his secretary come in, but it wasn't until the smell of the coffee reached his nose that he looked up. She handed him a filled cup and set the carafe down on the age-polished surface of the big desk. She watched solicitously as he drank.

"That bad, Arthur?" she asked.

"Just a little tired," he told her, refilling the cup. She'd made the coffee stronger than usual and it seemed to cut through some of the thickness in his head. "I guess I'm getting old, Amanda."

She smiled dutifully at the time-worn joke, but he knew she wasn't fooled. She'd cycled to middle age four times in her job and she probably knew him better than he knew himself — which wouldn't be hard, he thought. He'd hardly recognized the stranger in the mirror as he tried to shave. His normal thinness had looked almost gaunt and there were hollows in his face and circles under his eyes. Even his hair had seemed thinner, though that, of course, was impossible.

"Anything urgent on the Procyon shuttle?" he asked as she continue staring at him with worried eyes.

SHE JERKED her gaze away guiltily and turned to the incoming basket. "Mostly drugs for experimenting. A personal letter for you, relayed from some place I never heard of. And one of the super-light missiles! They found it drifting half a light-year out and captured it. Jordan's got a report on it and he's going crazy. But if you don't feel well — "

"I'm all right!" he told her sharply. Then he steadied himself and managed to smile. "Thanks for the coffee, Amanda."

She accepted dismissal reluctantly. When she was gone, he sat gazing at the report from Jordan at Research.

For eighty years now, they'd been sending out the little ships that vanished at greater than the speed of light, equipped with every conceivable device to make them return automatically after taking pictures of wherever they arrived. So far, none had ever returned or been located. This was the first hope they'd found that the century-long trips between stars in the ponderous shuttles might be ended and he should have been filled with excitement at Jordan's hasty preliminary report.

He leafed through it. The little ship apparently had been picked up by accident when it almost collided with a Sirius-local ship. Scientists there had puzzled over it, reset it and sent it back. The two white rats on it had still been alive.

Giles dropped the report wear-

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ily and picked up the personal message that had come on the shuttle. He fingered the microstrip inside while he drank another coffee, and finally pulled out the microviewer. There were three frames to the message, he saw with some surprise.

He didn't need to see the signature on the first projection. Only his youngest son would have sent an elaborate tercentenary greeting verse — one that would arrive ninety years too late! Harry had been born just before Earth passed the drastic birth limitation act and his mother had *spoiled him. He'd even tried to* avoid the compulsory emigration draft and stay on with his mother. It had been the bitter quarrels over that which had finally broken Giles' fifth marriage.

Oddly enough, the message in the next frame showed none of that. Harry had nothing but praise for the solar system where he'd been sent. He barely mentioned being married on the way or his dozen children, but filled most of the frame with glowing description and a plea for his father to join him there!

GILES SNORTED and turned to the third frame, which showed a group picture of the family in some sort of vehicle, against the background of an alien but attractive world.

He had no desire to spend ninety years cooped up with a bunch of callow young emigrants, even in one of the improved Exodus shuttles. And even if Exodus ever got the super-light drive working, there was no reason he should give up his work. The discovery that men could live practically forever had put an end to most family ties; sentiment wore thin in half a century — which wasn't much time now, though it had once seemed long enough.

Strange how the years seemed to get shorter as their number increased. There'd been a song once — something about the years dwindling down. He groped for the lines and couldn't remember. Drat it! Now he'd probably lie awake most of the night again, trying to recall them.

The outside line buzzed musically, flashing Research's number. Giles grunted in irritation. He wasn't ready to face Jordan yet. But he shrugged and pressed the button.

The intense face that looked from the screen was frowning as Jordan's eyes seemed to sweep around the room. He was still young — one of the few under a hundred who'd escaped deportation because of special ability — and patience was still foreign to him.

Then the frown vanished as

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an expression of shock replaced it, and Giles felt a sinking sensation. If he looked *that* bad —

But Jordan wasn't looking at him; the man's interest lay in the projected picture from Harry, across the desk from the communicator.

"Antigravity!" His voice was unbelieving as he turned his head to face the older man. "What world is that?"

Giles forced his attention on the picture again and this time he noticed the vehicle shown. It was enough like an old model Earth conveyance to pass casual inspection, but it floated wheellessly above the ground. Faint blur lines indicated it had been moving when the picture was taken.

"One of my sons —" Giles started to answer. "I could find the star's designation . . ."

Jordan cursed harshly. "So we can send a message on the shuttle, begging for their secret in a couple of hundred years! While a hundred other worlds make a thousand major discoveries they don't bother reporting! Can't the Council see *anything?*"

Giles had heard it all before. Earth was becoming a backwater world; no real progress had been made in two centuries; the young men were sent out as soon as their first fifty years of education were finished, and the older men were too conservative for really new thinking. There was a measure of truth in it, unfortunately.

"They'll slow up when their populations fill," Giles repeated his old answers. "We're still ahead in medicine and we'll get the other discoveries eventually, without interrupting the work of making the Earth fit for our longevity. We can wait. We'll have to."

THE YOUNGER man stared at him with the strange puzzled look Giles had seen too often lately. "Damn it, haven't you read my report? We know the superlight drive works! That missile reached Sirius in less than ten days. We can have the secret of this antigravity in less than a year! We —"

"Wait a minute." Giles felt the thickness pushing back at his mind and tried to fight it off. He'd only skimmed the report, but this made no sense. "You mean you can calibrate your guiding devices accurately enough to get a missile where you want it and back?"

"What?" Jordan's voice rattled the speaker. "Of course not! It took two accidents to get the thing back to us — and with a half-light-year miss that delayed it about twenty years before the Procyon shuttle heard its signal. Pre-setting a course may take centuries, if we can ever master

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it. Even with Sirius expecting the missiles and ready to cooperate. I mean the big ship. We've had it drafted for building long enough; now we can finish it in three months. We know the drive works. We know it's fast enough to reach Procyon in two weeks. We even know life can stand the trip. The rats were unharmed."

Giles shook his head at what the other was proposing, only partly believing it. "Rats don't have minds that could show any real damage such as the loss of power to rejuvenate. We can't put human pilots into a ship with our drive until we've tested it more thoroughly, Bill, even if they could correct for errors on arrival. Maybe if we put in stronger signaling transmitters . . ."

"Yeah. Maybe in two centuries we'd have a through route charted to Sirius. And we still wouldn't have proved it safe for human pilots. Mr. Giles, we've got to have the big ship. All we need is *one* volunteer!"

It occurred to Giles then that the man had been too fired with the idea to think. He leaned back, shaking his head again wearily. "All right, Bill. Find me one volunteer. Or how about you? Do you really want to risk losing the rest of your life rather than waiting a couple more centuries until we know it's safe? If you do, I'll order the big ship."

Jordan opened his mouth and for a second Giles' heart caught in a flux of emotions as the man's offer hovered on his lips. Then the engineer shut his mouth slowly. The belligerence ran out of him.

He looked sick, for he had no answer.

NO SANE man would risk a chance for near eternity against such a relatively short wait. Heroism had belonged to those who knew their days were numbered, anyhow.

"Forget it, Bill," Giles advised. "It may take longer, but eventually we'll find a way. With time enough, we're bound to. And when we do, the ship will be ready."

The engineer nodded miserably and clicked off. Giles turned from the blank screen to stare out of the windows, while his hand came up to twist at the lock of hair over his forehead. Eternity! They had to plan and build for it. They couldn't risk that plan for short-term benefits. Usually it was too easy to realize that, and the sight of the solid, time-enduring buildings outside should have given him a sense of security.

Today, though, nothing seemed to help. He felt choked, imprisoned, somehow lost; the city beyond the window blurred as he

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studied it, and he swung the chair back so violently that his hand jerked painfully on the forelock he'd been twisting.

Then he was staring unbelievingly at the single white hair that was twisted with the dark ones between his fingers.

Like an automaton, he bent forward, his other hand groping for the mirror that should be in one of the drawers. The dull pain in his chest sharpened and his breath was hoarse in his throat, but he hardly noticed as he found the mirror and brought it up. His eyes focused reluctantly. There were other white strands in his dark hair.

The mirror crashed to the floor as he staggered out of the office.

It was only two blocks to Giles' residence club, but he had to stop twice to catch his breath and fight against the pain that clawed at his chest. When he reached the wood-paneled lobby, he was barely able to stand.

Dubbins was at his side almost at once, with a hand under his arm to guide him toward his suite.

"Let me help you, sir," Dubbins suggested, in the tones Giles hadn't heard since the man had been his valet, back when it was still possible to find personal servants. Now he managed the club on a level of quasi-equality with the members. For the moment, though, he'd slipped back into the old ways.

GILES FOUND himself lying on his couch, partially undressed, with the pillows just right and a long drink in his hand. The alcohol combined with the reaction from his panic to leave him almost himself again. After all, there was nothing to worry about; Earth's doctors could cure anything.

"I guess you'd better call Dr. Vincenti," he decided. Vincenti was a member and would probably be the quickest to get.

Dubbins shook his head. "Dr. Vincenti isn't with us, sir. He left a year ago to visit a son in the Centauri system. There's a Dr. Cobb whose reputation is very good, sir."

Giles puzzled over it doubtfully. Vincenti had been an oddly morose man the last few times he'd seen him, but that could hardly explain his taking a twenty-year shuttle trip for such a slim reason. It was no concern of his, though. "Dr. Cobb, then," he said.

Giles heard the other man's voice on the study phone, too low for the words to be distinguishable. He finished the drink, feeling still better, and was sitting up when Dubbins came back.

"Dr. Cobb wants you to come to his office at once, sir," he said,

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dropping to his knee to help Giles with his shoes. "I'd be pleased to drive you there."

Giles frowned. He'd expected Cobb to come to him. Then he grimaced at his own thoughts. Dubbins' manners must have carried him back into the past; doctors didn't go in for home visits now — they preferred to see their patients in the laboratories that housed their offices. If this kept on, he'd be missing the old days when he'd had a mansion and counted his wealth in possessions, instead of the treasures he could build inside himself for the future ahead. He was getting possitively childish!

Yet he relished the feeling of having Dubbins drive his car. More than anything else, he'd loved being driven. Even after chauffeurs were a thing of the past, Harry had driven him around. Now he'd taken to walking, as so many others had, for even with modern safety measures so strict, there was always a small chance of some accident and nobody had any desire to spend the long future as a cripple.

"I'll wait for you, sir," Dubbins offered as they stopped beside the low, massive medical building.

It was almost too much consideration. Giles nodded, got out and headed down the hall uncertainly. Just how bad did he look? Well, he'd soon find out.

He located the directory and finally found the right office, its reception room wall covered with all the degrees Dr. Cobb had picked up in some three hundred years of practice. Giles felt better, realizing it wouldn't be one of the younger men.

COBB APPEARED himself, before the nurse could take over, and led Giles into a room with an old-fashioned desk and chairs that almost concealed the cabinets of equipment beyond.

He listened as Giles stumbled out his story. Halfway through, the nurse took a blood sample with one of the little mosquito needles and the machinery behind the doctor began working on it.

"Your friend told me about the gray hair, of course," Cobb said. At Giles' look, he smiled faintly. "Surely you didn't think people could miss that in this day and age? Let's see it."

He inspected it and began making tests. Some were older than Giles could remember — knee reflex, blood pressure, pulse and fluoroscope. Others involved complicated little gadgets that ran over his body, while meters bobbed and wiggled. The blood check came through and Cobb studied it, to go back and make further inspections of his own.

At last he nodded slowly. "Hy-

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per-catabolism, of course. I thought it might be. How long since you had your last rejuvenation? And who gave it?"

"About ten years ago," Giles answered. He found his identity card and passed it over, while the doctor studied it. "My sixteenth."

It wasn't going right. He could feel it. Some of the panic symptoms were returning; the pulse in his neck was pounding and his breath was growing difficult. Sweat ran down his sides from his armpit and he wiped his palms against his coat.

"Any particular emotional strain when you were treated — some major upset in your life?" Cobb asked.

Giles thought as carefully as he could, but he remembered nothing like that. "You mean — it didn't take? But I never had any trouble, Doctor. I was one of the first million cases, when a lot of people couldn't rejuvenate at all, and I had no trouble even then."

Cobb considered it, hesitated as if making up his mind to be frank against his better judgment. "I can't see any other explanation. You've got a slight case of angina — nothing serious, but quite definite — as well as other signs of aging. I'm afraid the treatment didn't take fully. It might have been some unconscious block on your part, some infection not diagnosed at the time, or even a fault in the treatment. That's pretty rare, but we can't neglect the possibility."

HE STUDIED his charts again and then smiled. "So we'll give you another treatment. Any reason you can't begin immediately?"

Giles remembered that Dubbins was waiting for him, but this was more important. It hadn't been a joke about his growing old, after all. But now, in a few days, he'd be his old — no, of course not — his young self again!

They went down the hall to another office, where Giles waited outside while Cobb conferred with another doctor and technician, with much waving of charts. He resented every second of it. It was as if the almost forgotten specter of age stood beside him, counting the seconds. But at last they were through and he was led into the quiet rejuvenation room, where the clamps were adjusted about his head and the earpieces were fitted. The drugs were shot painlessly into his arm and the light-pulser was adjusted to his brain-wave pattern.

It had been nothing like this his first time. Then it had required months of mental training, followed by crude mechanical and drug hypnosis for other months.

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Somewhere in every human brain lay the memory of what his cells had been like when he was young. Or perhaps it lay in the cells themselves, with the brain as only a linkage to it. They'd discovered that, and the fact that the mind could effect physical changes in the body. Even such things as cancer could be willed out of existence — provided the brain could be reached far below the conscious level and forced to operate.

There had been impossible faith cures for millenia — cataracts removed from blinded eyes within minutes, even — but finding the mechanism in the brain that worked those miracles had taken an incredible amount of study and finding a means of bringing it under control had taken even longer.

Now they did it with dozens of mechanical aids in addition to the hypnotic instructions — and did it usually in a single sitting, with the full transformation of the body taking less than a week after the treatment!

But with all the equipment, it wasn't impossible for a mistake to happen. It had been no fault of his . . . he was sure of that . . . his mind was easy to reach . . . he could relax so easily . . .

He came out of it without even a headache, while they were removing the probes, but the fatigue on the operator's face told him it had been a long and difficult job. He stretched experimentally, with the eternal unconscious expectation that he would find himself suddenly young again. But that, of course, was ridiculous. It took days for the mind to work on all the cells and to repair the damage of time.

COBB LED him back to the first office, where he was given an injection of some kind and another sample of his blood was taken, while the earlier tests were repeated. But finally the doctor nodded.

"That's all for now, Mr. Giles. You might drop in tomorrow morning, after I've had a chance to complete my study of all this. We'll know by then whether you'll need more treatment. Ten o'clock okay?"

"But I'll be all right?"

Cobb smiled the automatic reassurance of his profession. "We haven't lost a patient in two hundred years, to my knowledge."

"Thanks," said Giles. "Ten o'clock is fine."

Dubbins was still waiting, reading a paper whose headlined feature carried a glowing account of the discovery of the super-light missile and what it might mean. He took a quick look at Giles and pointed to it. "Great work, Mr. Giles. Maybe we'll all get to see

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some of those other worlds yet." Then he studied Giles more carefully. "Everything's in good shape now, sir?"

"The doctor says everything's going to be fine," Giles answered.

It was then he realized for the first time that Cobb had said no such thing. A statement that lightning had never struck a house was no guarantee that it never would. It was an evasion meant to give such an impression.

The worry nagged at him all the way back. Word had already gone around the club that he'd had some kind of attack and there were endless questions that kept it on his mind. And even when it had been covered and recovered, he could still sense the glances of the others, as if he were Vincenti in one of the man's more morose moods.

He found a single table in the dining room and picked his way through the meal, listening to the conversation about him only when it was necessary because someone called across to him. Ordinarily, he was quick to support the idea of clubs in place of private families. A man here could choose his group and grow into them. Yet he wasn't swallowed by them, as he might be by a family. Giles had been living here for nearly a century now and he'd never regretted it. But tonight his own group irritated him.

He puzzled over it, finding no real reason. Certainly they weren't forcing themselves on him. He remembered once when he'd had a cold, before they finally licked that; Harry had been a complete nuisance, running around with various nostrums, giving him no peace. Constant questions about how he felt, constant little looks of worry — until he'd been ready to yell at the boy. In fact, he had.

Funny, he couldn't picture really losing his temper here. Families did odd things to a man.

HE LISTENED to a few of the discussions after the dinner, but he'd heard them all before, except for one about the super-speed drive, and there he had no wish to talk until he could study the final report. He gave up at last and went to his own suite. What he needed was a good night's sleep after a little relaxation.

Even that failed him, though. He'd developed one the finest chess collections in the world, but tonight it held no interest. And when he drew out his tools and tried working on the delicate, lovely jade for the set he was carving his hands seemed to be all thumbs. None of the other interests he'd developed through the years helped to add to the richness of living now.

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He gave it up and went to bed — to have the fragment of that song pop into his head. Now there was no escaping it. Something about the years — or was it days — dwindling down to something or other.

Could they really dwindle down? Suppose he couldn't rejuvenate all the way? He knew that there were some people who didn't respond as well as others. Sol Graves, for instance. He'd been fifty when he finally learned how to work with the doctors and they could only bring him back to about thirty, instead of the normal early twenties. Would that reduce the slice of eternity that rejuvenation meant? And what had happened to Sol?

Or suppose it wasn't rejuvenation, after all; suppose something had gone wrong with him permanently?

He fought that off, but he couldn't escape the nagging doubts at the doctor's words.

He got up once to stare at himself in the mirror. Ten hours had gone by and there should have been some signs of improvement. He couldn't be sure, though, whether there were or not.

He looked no better the next morning when he finally dragged himself up from the little sleep he'd managed to get. The hollows were still there and the circles under his eyes. He searched for the gray in his hair, but the traitorous strands had been removed at the doctor's office and he could find no new ones.

He looked into the dining room and then went by hastily. He wanted no solicitous glances this morning. Drat it, maybe he should move out. Maybe trying family life again would give him some new interests. Amanda probably would be willing to marry him; she'd hinted at a date once.

He stopped, shocked by the awareness that he hadn't been out with a woman for . . .

He couldn't remember how long it had been. Nor why.

"In the spring, a young man's fancy," he quoted to himself, and then shuddered.

It hadn't been that kind of spring for him — not this rejuvenation nor the last, nor the one before that.

GILES TRIED to stop scaring himself and partially succeeded, until he reached the doctor's office. Then it was no longer necessary to frighten himself. The wrongness was too strong, no matter how professional Cobb's smile!

He didn't hear the preliminary words. He watched the smile vanish as the stack of reports came out. There was no nurse here now. The machines were quiet — and all the doors were shut.

Giles shook his head, interrupt-

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ing the doctor's technical jargon. Now that he knew there was reason for his fear, it seemed to vanish, leaving a coldness that numbed him.

"I'd rather know the whole truth," he said. His voice sounded dead in his ears. "The worst first. The rejuvenation . . .?"

Cobb sighed and yet seemed relieved. "Failed." He stopped, and his hands touched the reports on his desk. "Completely," he added in a low, defeated tone.

"But I thought that was impossible!"

"So did I. I wouldn't believe it even yet — but now I find it isn't the first case. I spent the night at Medical Center going up the ranks until I found men who really know about it. And now I wish I hadn't." His voice ran down and he gathered himself together by an effort. "It's a shock to me, too, Mr. Giles. But — well, to simplify it, no memory is perfect — even cellular memory. It loses a little each time. And the effect is cumulative. It's like an asymptotic curve — the further it goes, the steeper the curve. And — well, you've passed too far."

He faced away from Giles, dropping the reports into a drawer and locking it. "I wasn't supposed to tell you, of course. It's going to be tough enough when they're ready to let people know. But you aren't the first and you won't be the last, if that's any consolation. We've got a longer time scale than we used to have — but it's in centuries, not in eons. For everybody, not just you."

It was no consolation. Giles nodded mechanically. "I won't talk, of course. How—how long?"

Cobb spread his hands unhappily. "Thirty years, maybe. But we can make them better. Geriatric knowledge is still on record. We can fix the heart and all the rest. You'll be in good physical condition, better than your grandfather — "

"And then . . ." Giles couldn't pronounce the words. He'd grown old and he'd grow older. And eventually he'd die!

An immortal man had suddenly found death hovering on his trail. The years had dwindled and gone, and only a few were left.

He stood up, holding out his hand. "Thank you, Doctor," he said, and was surprised to find he meant it. The man had done all he could and had at least saved him the suspense of growing doubt and horrible eventual discovery.

OUTSIDE ON the street, he looked up at the Sun and then at the buildings built to last for thousands of years. Their eternity was no longer a part of him.

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Even his car would outlast him.

He climbed into it, still partly numbed, and began driving mechanically, no longer wondering about the dangers that might possibly arise. Those wouldn't matter much now. For a man who had thought of living almost forever, thirty years was too short a time to count.

He was passing near the club and started to slow. Then he went on without stopping. He wanted no chance to have them asking questions he couldn't answer. It was none of their business. Dubbins had been kind — but now Giles wanted no kindness.

The street led to the office and he drove on. What else was there for him? There, at least, he could still fill his time with work — work that might even be useful. In the future, men would need the super-light drive if they were to span much more of the Universe than now. And he could speed up the work in some ways still, even if he could never see its finish.

It would be cold comfort but it was something. And he might keep busy enough to forget sometimes that the years were gone for him.

Automatic habit carried him through the office again, to Amanda's desk, where her worry was still riding her. He managed a grin and somehow the right words came to his lips. "I saw the doctor, Amanda, so you can stop figuring ways to get me there."

She smiled back suddenly, without feigning it. "Then you're all right?"

"As all right as I'll ever be," he told her. "They tell me I'm just growing old."

This time her laugh was heartier. He caught himself before he could echo her mirth in a different voice and went inside where she had the coffee waiting for him.

Oddly, it still tasted good to him.

The projection was off, he saw, wondering whether he'd left it on or not. He snapped the switch and saw the screen light up, with the people still in the odd, wheelless vehicle on the alien planet.

FOR A long moment, he stared at the picture without thinking, and then bent closer. Harry's face hadn't changed much. Giles had almost forgotten it, but there was still the same grin there. And his grandchildren had a touch of it, too. And of their grandfather's nose, he thought. Funny, he'd never seen even pictures of his other grandchildren. Family ties melted away too fast for interstellar travel.

Yet there seemed to be no slackening of them in Harry's case, and somehow it looked like

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a family, rather than a mere group. A very pleasant family in a very pleasant world.

He read Harry's note again, with its praise for the planet and its invitation. He wondered if Dr. Vincenti had received an invitation like that, before he left. Or had he even been one of those to whom the same report had been delivered by some doctor? It didn't matter, but it would explain things, at least.

Twenty years to Centaurus, while the years dwindled down—

Then abruptly the line finished itself. "The years dwindle down to a precious few . . ." he remembered. "A precious few."

Those dwindling years had been precious once. He unexpectedly recalled his own grandfather holding him on an old knee and slipping him candy that was forbidden. The years seemed precious to the old man then.

Amanda's voice came abruptly over the intercom. "Jordan wants to talk to you," she said, and the irritation was sharp in her voice. "He won't take no!"

Giles shrugged and reached for the projector, to cut it off. Then, on impulse, he set it back to the picture, studying the group again as he switched on Jordan's wire.

But he didn't wait for the hot words about whatever was the trouble.

"Bill," he said, "start getting the big ship into production. I've found a volunteer."

He'd been driven to it, he knew, as he watched the man's amazed face snap from the screen. From the first suspicion of his trouble, something inside him had been forcing him to make this decision. And maybe it would do no good. Maybe the ship would fail. But thirty years was a number a man could risk.

If he made it, though . . .

Well, he'd see those grandchildren of his this year — and Harry. Maybe he'd even tell Harry the truth, once they got done celebrating the reunion. And there'd be other grandchildren. With the ship, he'd have time enough to look them up. Plenty of time!

Thirty years was a long time, when he stopped to think of it.

—LESTER DEL REY

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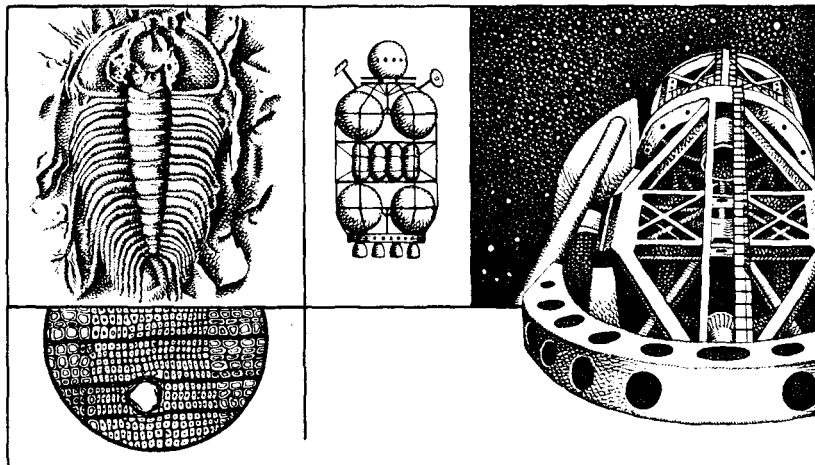

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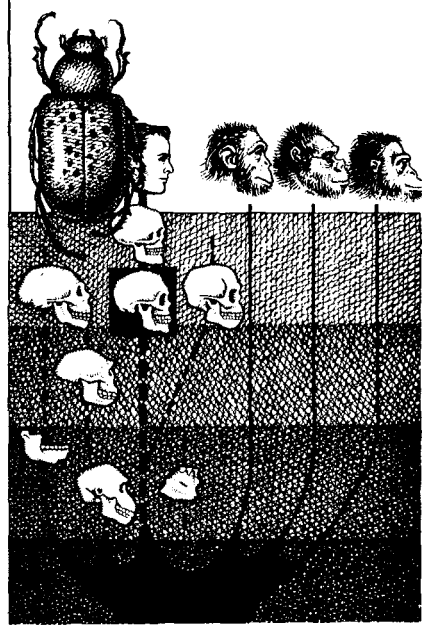

By WILLY LEY

FYR GREGEYS AND WYLDE-FYR

REPEATEDLY, IN the past, I have had whole columns devoted exclusively to themes provoked by letters from my readers. This is another of these columns and the first theme I want to take up is that of "Greek Fire."

Earlier this year, I received a letter from a reader in which I was asked whether anything is known about the composition of "Greek Fire." My correspondent wrote that a book printed in 1850

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— presumably in England — asserted that some statements about the feats and attributes of mythological and semi-mythological characters could probably be explained by the assumption that the hero used Greek Fire, "the composition of which is now lost."

I replied that I could not judge the mythological implications (about which I feel somewhat doubtful), but that the composition of Greek Fire had never been lost and that it was certainly known in 1850, although the author of the book quoted evidently had not known where to look for it.

He could, for example, have consulted the work "On Greek Fire" which *Monsieur le professeur* Reynaud and *le Capitaine* Favé had published in Paris in 1845. He could have found something about it in earlier English books on gunnery. He could even have come across *fyr gregeys* (Greek Fire) and the allied *wylde-fyr* (wildfire) in still older English romances.

AS THESE two names, of which one has become proverbial, indicate, there were two types: Greek Fire, which came first and was used on land for sieges as well as at sea in naval engagements, and wildfire, which came several centuries later and was used exclusively at sea, as far as we know, at any rate.

That this later wildfire or sea-fire was promptly called Greek Fire, too — especially by people who were not Greek themselves — produced the first stumbling block of confusion. And for a long time there actually existed a well-kept secret about the sea-fire. The existence of such a secret was loudly advertised ("secret weapons" were everybody's favorite even in antiquity) and it is probably this much-mentioned fact that led to later generalizations about a "lost art."

As regards the early Greek Fire, we have not only general and possibly exaggerated descriptions of its effectiveness but even an actual recipe. It was written about 350 B. C. by Aeneas the Tactician.

Greek Fire, he said, consists of sulphur, pitch, incense, pine-wood and tow. No proportions being given, it is easy to see that the mixture ratio of the ingredients was by no means critical. The incense probably had some religious significance. As for the pine-wood, a later commentator thought that the term actually meant charcoal from pine-wood, but personally I can't see any reason for this interpretation. Resinous pine-wood, probably whittled into shavings, sounds like a very logical companion for sulphur and pitch.

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Aeneas went on to say that this mixture was put into egg-shaped wooden containers and heaved upon the decks of enemy ships after ignition. My guess is that these containers were purposely made weak to burst open upon striking.

The next preserved recipe for Greek Fire is just seven centuries younger than the one just quoted, having been written down in 350 A.D. It can be found in *De Re Militari* by Vegetius. That the seven centuries had improved the mixture by way of much practice of "premeditated military arson" (to use the circumlocution of some German historians for the employment of incendiaries) can be seen from the list of ingredients.

They were sulphur, rosin, bitumen and naphtha — a mixture which would stump even well-drilled modern firefighters if they had nothing but water at their disposal to combat the blaze.

Actually the Greek Fire of Vegetius was a much better incendiary than the Greek Fire of the much later collection of military recipes that goes under the name of *Liber ignium*, or "Fire Book."

THE RECIPE for Greek Fire is one of the oldest in the "Fire Book," which dates it at around 1200 A. D. The ingredients listed are the usual sulphur and pitch, to which petroleum and *sarcocolla* (a tree gum) were added. Further ingredients were something called Oil of Gemma, *tartarum* or cream of tartar and *sal coctus*, which is salt produced by the evaporation of sea water.

The *sal coctus* especially could not have done anything for the mixture but slow down combustion and one may be tempted to guess at some magical reason for its presence. However, the military historian S. J. von Romocki has pointed out that there may have been a rational reason involved, rational though mistaken.

Salt from the sea is essentially ordinary salt with a good dose of "impurities" and when you add salt to a fire the flame is colored yellow because of the sodium in the salt. Colonel von Romocki had reason to believe that the people of the eleventh century thought that a brighter flame was also a hotter flame and since the salt brightened the fire, it was thought to be a useful addition. It may even have been a trade secret for a long time.

The real and useful secret I mentioned earlier came into being about midway in time between the straightforward recipe of Vegetius and the far more complicated and less effective one of the *Liber ignium*. The secret was in the hands of the Christian emperors of Constantinople, who

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confused many a later high-school boy by their habit of referring to themselves as "Romans." In the printed editions of their own writings, it *is* strange to see somebody proclaim in Greek type that "we Romans" did this or that.

But aside from this minor item, everything is clear and logical. The *Chronography of Theophanes,* written 811-815 A. D., states in so many words that in 673 the architect Kallinikos fled from Heliopolis in Syria "to the Romans" (read: Constantinople) and compounded a sea-fire which enabled those Romans to burn a large number of Moslem ships at Cyzicus during the first Moslem siege of Constantinople.

The emperor, Constantine (VII) Porphyrogenetos, himself corroborated the story by writing: "Be it known that under the reign of Constantine Pogonatos one Kallinikos, who fled from Heliopolis to the Romans, prepared a wet-fire to be discharged from siphons, by means of which the Romans burned the fleet of the Saracens at Cyzicus and gained the victory."

Since the reign of emperor Constantine Pogonatos lasted from 668 to 685, the flight of Kallinikos probably did take place in 673. This was just one year before the beginning of the first siege of Constantinople, which lasted from 674 to 676. Because of this close proximity of the dates, it seems likely that Kallinikos did not make his invention after his arrival in Constantinople but brought the secret with him. It must have been his own and not just something known in Heliopolis, because the other side never learned it.

EMPEROR CONSTANTINE Porphyrogenetos still kept a certain amount of "security" on his best weapon, for he advised his son as follows: "If any persons venture to inquire of you how this fire is prepared, withstand them, and dismiss them with some such answer as this: that the secret was revealed by an angel to the first Emperor Constantine."

The first Constantine ruled from 323 to 337 and was, of course, completely innocent of the whole case, but some later historians, reading the passage inattentively, took it seriously and tried to push events back by more than three centuries. But as the British Lt.-Col. Henry W. L. Hime remarked about the seventh Constantine's advice to his son: "this passage merely proves that the Emperor was mendacious and his people superstitious."

The wet-fire or sea-fire — later called wildfire — did serve the "Romans" well. It won the naval battle which lifted the first siege

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of Constantinople for them and it did the same in the second siege in 716 to 718. It repulsed a Russian fleet under Igor in 941 and won them a decisive victory when the Russians tried again in 1043.

What was this substance?

That the secret of Kallinikos was the incorporation of saltpeter into "ordinary" Greek Fire seemed an irresistable conclusion to quite a number of later writers, especially those who had no first-hand experience with black gunpowder. The reason for their belief was that one of the original sources on sea-fire, the book of Princess Anna Komnena, mentions that it burned with much smoke and a thunderous noise, something that oil vapor can do nicely.

What the "saltpeter writers" overlooked or did not understand were several simple facts. Emperor Constantine Porphyrogenetos as well as Anna Komnena emphasize that the sea-fire was projected from wooden siphons and we can get an idea of what a siphon was if we know that this word ordinarily means the apparatus with which water was thrown into a conflagration. Because of this method of projecting it, the sea-fire must have been a liquid. It is stated furthermore that it burned on the surface of the water and if you throw slow-burning gunpowder into water you don't get any result worth mentioning — few substances are as sensitive to moisture as black gunpowder.

Moreover, if the Byzantine "procurement service" — whatever its proper name may have been — had bought large quantities of an entirely novel substance, namely saltpeter, this could not have stayed a secret for any length of time. It had to be something that did not arouse curiosity because it was well known and used for other purposes, too. And it had to be something that would sustain combustion in spite of the sea water and even *cause* combustion with the aid of the water.

AT ABOUT the time the architect Kallinikos left Heliopolis to join "the Romans," an improvement on the well-known Greek Fire had taken place. Pliny the Elder, living in Rome in the first century A. D., already knew that quicklime, when wetted, produces a temperature high enough to ignite easily inflammable substances such as naptha.

Around the year 500, a recipe for a quicklime-asphalt mixture for military uses in sieges and such was actually written down, advising the artisan to prepare this mixture "in the heat of the noonday sun." Two such recipes can still be found in the *Liber ignium* — one names sulphur, quicklime and turpentine, the

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other substitutes oil for the turpentine — and another book of the same period contains a recipe listing sulphur, quicklime, naptha, wax and oil.

But quicklime could not have been the secret of Kallinikos. In the first place, it was not a secret in his time. In the second place, a rather large quantity of quicklime is needed to produce ignition of an inflammable substance, more quicklime than could be pumped through a fire hose. There is little doubt that the liquid directed at the enemy through the "siphon" was a mixture of petroleum, oil and naphtha, but what ignited it?

No satisfactory answer to that question was given until about 1912, when the English professor W. R. E. Hodgkinson of the Ordnance College in Woolwich got in touch with his compatriot Henry W. L. Hime after having read the latter's book on the origin of gunpowder and ammunition. Professor Hodgkinson pointed out that there is a substance which could ignite such an incendiary liquid at sea even when present in only small quantities.

This substance is phosphide of calcium. It not only meets the technical requirements but also what might be called the historical requirements. It would have been a novel substance at the time, known only to the man who happened to stumble across it. It could have been kept secret because rather small quantities were required and because no unusual materials were needed to make it. It can be made of lime, bones and urine, all three inconspicuous and all three much used by alchemists for their experiments.

In a manner of speaking, the secret of the sea-fire is still a secret, for nobody seems to ever have written it down. But Professor Hodgkinson's suggestion can be accepted as the solution of the problem without any reservations. Calcium phosphide was not "known," but could have been found by dabbling in alchemy.

Quite likely, several people came across it at one time or another. Kallinikos, however, could visualize a use for it when he did.

THE BITE OF THE SHREW

THE NEXT question, from a reader in Canada, is about as far removed thematically from the earlier question as is possible, but there is one connecting link — it, too, is prompted by a statement in an old book.

An explorer, returning from Africa, wrote that he had been assured by Ethiopians as well as white settlers that the claws of lions were poisonous, for wounds

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caused by such claws tended to "inflame" and to be very slow-healing, often breaking open again months later.

My correspondent concluded correctly that the idea — accepting the statement itself as being substantially true — was based on a confusion between poison and infection. But he wanted to know whether any vertebrates other than snakes and the two versions of the Gila monster actually carry poison.

The answer is not as simple as it might look at first glance. Among the amphibians, for example, there is no known case of poison glands connected with hollow or grooved fangs, which is what one usually thinks of after a mention of venomous snakes. But various toads produce a substance in skin glands that can raise blisters on human skin. There is no real danger and susceptibility seems to vary within fantastic limits, most people having very little of it. But strictly speaking, it is a poison.

And one South American tree frog, beautifully sheathed in shiny green and golden-yellow skin, does produce a poison in its skin glands which makes it dangerous to the touch. The South American Indians actually use the frog's skin exudation to poison their arrows.

In the classes above the amphibians and reptiles, examples of poison become so rare that they are surprises rather than examples and even a zoologist may not think at once of the one I have chiefly in mind. True, there is no venomous bird, although somebody once spoke of "the hawk's venomous glare," but it is different with the mammals. One whole group of them has glands producing a strongly venomous substance, even though this is not possibly a weapon.

I AM REFERRING to the members of the lowest subclass of the mammals, the monotremes of Australia and New Guinea, better known as platypus and echidna.

The males of these animals carry on their hind legs a spur, rather similar in appearance and position to the spur of a rooster. It is smaller in size and, unlike the rooster's spur, it is movable. And it has a fine canal, so narrow that a human hair can be passed through it, while a horse hair is too thick. This canal is connected with the duct of a gland. And ever since platypus has been known — which is since 1797 — it was said that the spur is poisonous.

One very precise report was written in 1816 by Sir John Jamison. A man, he reported, had picked up a male platypus and the animal, kicking its legs, had

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jabbed its spur into his hand. The victim "in spite of immediate medical treatment exhibited all the symptoms of a person bitten by a venomous snake. The man was obliged to keep to his bed for several days, and did not recover the use of his hand for nine weeks."

This is the first definite case on record, but it did not remain the only one. In the course of time, quite a number of people have been injured by the spur of a male platypus and in every case the symptoms resembled snake bite, though recovery, as a rule, took less than a week. No fatal case is known, but smaller animals, like rabbits, died very soon after a platypus spur was forced through their skins.

I said earlier that this cannot possibly be a weapon because only the males are equipped with the spur. It must somehow be sex-linked, but so far very little about its "natural use" — if this is the proper term — is known. The two most obvious theories that have found their way into print are that (A) the spurs are the equivalent of antlers and used by the males on each other in fighting for the females or (B) the spurs are used by the males on the females to inject them with what to a platypus is an aphrodisiac. Maybe — but to anybody else, it is poison.

Another example of a poison gland in a mammal has become known only very recently. It was announced for the first time during the last week of 1954 of the First International Conference on Animal Venoms by Dr. Oliver P. Pearson of the University of California.

The poison bearer is the short-tailed shrew *Blarina brevicauda.* The poison glands seem to be "in a distinctive, granule-filled segment" of the tissue around the jaws. "Injection of minute quantities of saline extract of these glands produces dramatic effects on respiration, pulse and blood pressure" in experimental animals. It kills mice, which the shrew eats. It has been found in this species of shrew only.

And that is all that is known so far.

LEAP YEARS ON MARS

ANOTHER CANADIAN reader, an officer of the armed forces, came up with a triple question, all concerning our neighbor Mars. His third and last question is the easiest to answer — where should he try to be stationed in 1956, when Mars comes close, so he can get a good view?

Well, *not* in Canada and if an assignment of that sort can be wangled, south of even the U. S.

The second question was just

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how close Mars would be during the 1956 opposition and how this opposition compares to a few of the preceding oppositions. The answer is that the 1956 opposition comes close to what is astronomically possible; it is a pity that we can't observe it from a space station outside the Earth's atmosphere.

The next really good opposition will take place in August, 1971, and there should be a space station by then. There will be a fine one in 2003, but with some luck we'll then no longer need oppositions to observe the planet; very likely one will be able to call up the *Lacus Solis* station and inquire about the local weather forecast.

As for comparisons with other recent oppositions, this is how things worked out:

1939, July 23	36,171,000
1941, Oct. 10	38,508,000
1943, Dec. 5	50,599,000
1946, Jan. 14	59,800,000
1948, Feb. 18	63,000,000
1950, March 24	60,700,000
1952, May 2	52,400,000
1954, June 25	40,300,000
1956, Sept. 11	35,400,000

The first question in the letter was whether somebody had ever devised a calendar for Mars. To my knowledge, it has been done at least three times. The earliest I know of came from the facile pen of the French astronomer Camille Flammarion. Some ten or twelve years ago, Dr. Robert S. Richardson presented several versions of a Martian calendar and last year Dr. I. M. Levitt published another one, modeled, no doubt, on the proposed World Calendar for Earth.

The sad fact is that Mars, just like Earth, does not complete one revolution around the Sun in a fractionless number of its days. The length of the Martian year is 668 *and six-tenths* Martian days. This produces something like the leap-year cycle of the terrestrial calendar, except that there are more leap years than normal years on Mars, if you define a leap year as a year that has one more day than a normal year.

In Dr. Levitt's calendar, the Martian year is divided into four equal quarters, running 56, 56, 55. This means that the first two months of the quarter, say January and February, have 56 days each, while March has 55. The same holds true for each quarter in turn. The total per year makes 668 days. To take care of the extra 6/10th of a day per year, the calendar has to run in five-year cycles.

In each cycle, you have two normal years of 668 days and three leap years of 669 days. In those leap years, December would have 56 days, too. Now twice 668 plus three times 669 adds up to

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3343 days. The figure 668.6 multiplied by five also produces 3343 days. Trouble is that the true figure is not 668.6 but 668.59905, so that each calendar year comes out just a trifle too long.

However, the problem can be simply solved, since the tiny difference adds up to just one day per millenium. Once every millenium, a day has to be dropped, which means that in one five-year cycle per millenium, there will be three normal years and two leap years.

LAST WORD ON THE "MOUNTAIN BOOMER"

EVERY ONCE in a while, I have the pleasing experience of receiving a letter which tells me something instead of asking questions. Such a letter came from an officer of the U. S. Navy, who wrote:

"As a herpetologist and Texan, I can answer your question as to the use of Mountain Boomer for lizards of the genus *Crotaphytus.* Oddly enough, its origin is tied up with the strange life history of the frog *Eleuthrodactylus latrans* (family *Leptodactylidae*). This is a fairly common but seldom seen frog of the southwestern United States. Unlike most other frogs and toads, the frogs of this genus do not require water for their larval development.

"The eggs are laid in the moist earth under large boulders and slabs of limestone. Here the tadpoles develop and undergo metamorphosis before hatching. Tiny frogs emerge directly from the eggs. The mating call of an adult male can be heard over a half a mile, and unlike other frogs they call throughout the day as well as night. Now with the underside of boulders the favorite habitat of *Eleuthrodactylus latrans* and the upper surfaces the favorite sunning places of *Crotaphytus collaris* (and other large lizards), it often happens that the loud boom of the frog is attributed to the basking lizard.

"I first heard," my correspondent continued, "the Collared Lizard called Mountain Boomer a number of years ago while on a field trip near San Marcos, Texas. Upon asking why such a strange name, I was assured that the lizard had a mighty voice and boomed both day and night. My informant then described perfectly the voice of *Eleuthrodactylus latrans* . . . Of course, almost all lizards are mute, with a few exceptions, like some members of the family *Geckonidae* and the Jamaican lizard *Anolis grahami,* which emit a faint squeak."

Thank you, Mr. R. E. We'll now put the Mountain Boomer to rest as far as this column is concerned.

— WILLY LEY

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From the desk of:

H. L. GOLD

To Our Readers:

This is your Christmas Issue! From now on Galaxy will go on sale much earlier than usual. We are going to establish a five week prior to cover date; "on-sale date". In order to do this we are redating our covers, therefore, we are not publishing an issue marked December. However, your January issue is the Christmas number. Subscribers will get their full number of copies and all readers can look for Galaxy on the stands the last week of each month, (ie) January issue on sale last week of November, February issue on sale last week of December, etc. We hope you like this new dating.

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JUNIOR

All younger generations have been going to the dogs . . . but this one was genuinely sunk!

By ROBERT ABERNATHY

"JUNIOR!" bellowed Pater.

"*Junior!*" squeaked Mater, a quavering echo.

"Strayed off again — the young idiot! If he's playing in the shallows, with this tide going out . . ." Pater let the sentence hang blackly. He leaned upslope as far as he could stretch, angrily scanning the shoreward reaches where light filtered more brightly down through the murky water, where the sea-surface glinted like bits of broken mirror.

No sign of Junior.

Mater was peering fearfully in the other direction, toward where, as daylight faded, the slope of the coastal shelf was fast losing itself in green profundity. Out there, out of sight at this hour, the reef that loomed sheltering above them fell away in an abrupt cliffhead, and the abyss began.

"Oh, oh," sobbed Mater. "He's lost. He's swum into the abyss and been eaten by a sea monster."

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Her slender stem rippled and swayed on its base and her delicate crown of pinkish tentacles trailed disheveled in the pull of the ebbtide.

"Pish, my dear!" said Pater. "There are no sea monsters. At worst," he consoled her stoutly, "Junior may have been trapped in a tidepool."

"Oh, oh," gulped Mater. "He'll be eaten by a land monster."

"There ARE no land monsters!" snorted Pater. He straightened his stalk so abruptly that the stone to which he and Mater were conjugally attached creaked under them. "How often must I assure you, my dear, that WE are the highest form of life?" (And, as for his world and geologic epoch, he was quite right.)

"Oh, oh," gasped Mater.

Her spouse gave her up. "JUNIOR!" he roared in a voice that loosened the coral along the reef.

ROUND about, the couple's bereavement had begun attracting attention. In the thickening dusk, tentacles paused from winnowing the sea for their owners' suppers, stalked heads turned curiously here and there in the colony. Not far away, a threesome of maiden aunts, rooted en brosse to a single substantial boulder, twittered condolences and watched Mater avidly.

"Discipline!" growled Pater. "That's what he needs! Just wait till I—"

"Now, dear—" began Mater shakily.

"Hi, folks!" piped Junior from overhead.

His parents swiveled as if on a single stalk. Their offspring was floating a few fathoms above them, paddling lazily against the ebb; plainly he had just swum from some crevice in the reef nearby. In one pair of dangling tentacles he absently hugged a roundish stone, worn sensuously smooth by pounding surf.

"WHERE HAVE YOU BEEN?"

"Nowhere," said Junior innocently. "Just playing hide-and-go-sink with the squids."

"With the other polyps," Mater corrected him primly. She detested slang.

Pater was eyeing Junior with ominous calm. "And where," he asked, "did you get that stone?"

Junior contracted guiltily. The surfstone slipped from his tentacles and plumped to the seafloor in a flurry of sand. He edged away, stammering, "Well, I guess maybe . . . I might have gone a little ways toward the beach . . ."

"You guess! When I was a polyp," said Pater, "the small fry obeyed their elders, and no guess about it!"

"Now, dear—" said Mater.

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"And no spawn of mine," Pater warmed to his lecture, "is going to flout my words! Junior — COME HERE!"

Junior paddled cautiously around the homesite, just out of tentacle-reach. He said in a small voice, "I won't."

"DID YOU HEAR ME?"

"Yes," admitted Junior.

The neighbors stared. The three maiden aunts clutched one another with muted shrieks, savoring beforehand the language Pater would now use.

But Pater said "Ulp!" — no more.

"Now, dear," put in Mater quickly. "We must be patient. You know all children go through larval stages."

"When I was a polyp . . ." Pater began rustily. He coughed out an accidentally inhaled crustacean, and started over: "No spawn of mine . . ." Trailing off, he only glared, then roared abruptly, "SPRAT!"

"I won't!" said Junior reflexively and backpaddled into the coral shadows of the reef.

"That wallop," seethed Pater, "wants a good polyping. I mean . . ." He glowered suspiciously at Mater and the neighbors.

"Dear," soothed Mater, "didn't you *notice?*"

"Of course, I . . . Notice what?"

"What Junior was doing . . . carrying a stone. I don't suppose he understands *why*, just yet, but . . ."

"A stone? Ah, uh, to be sure, a stone. Why, my dear, do you realize what this *means?*"

PATER was once more occupied with improving Mater's mind. It was a long job, without foreseeable end — especially since he and his helpmeet were both firmly rooted for life to the same tastefully decorated homesite (garnished by Pater himself with colored pebbles, shells, urchins and bits of coral in the rather rococo style which had prevailed during Pater's courting days as a free-swimming polyp).

"Intelligence, my dear," pronounced Pater, "is quite incompatible with motility. Just think — how could ideas congeal in a brain shuttled hither and yon, bombarded with ever-changing sense-impressions? Look at the lower species, which swim about all their lives, incapable of taking root or thought! True Intelligence, my dear — as distinguished from Instinct, of course — presupposes the fixed viewpoint!" He paused.

Mater murmured, "Yes, dear," as she always did obediently at this point.

Junior undulated past, swimming toward the abyss. He moved a bit heavily now; it was growing hard for him to keep his maturely

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thickening afterbody in a horizontal posture.

"Just look at the young of our own kind," said Pater. "Scatterbrained larvae, wandering greedily about in search of new stimuli. But, praise be, they mature at last into sensible sessile adults. While yet the unformed intellect rebels against the ending of carefree polyphood, Instinct, the wisdom of Nature, instructs them to prepare for the great change!"

He nodded wisely as Junior came gliding back out of the gloom of deep water. Junior's tentacles clutched an irregular basalt fragment which he must have picked up down the rubble-strewn slope. As he paddled slowly along the rim of the reef, the adult anthozoans located directly below looked up and hissed irritable warnings.

He was swimming a bit more easily now and, if Pater had not been a firm believer in Instinct, he might have been reminded of the grossly materialistic theory, propounded by some iconoclast, according to which a maturing polyp's tendency to grapple objects was merely a matter of taking on ballast.

"See!" declared Pater triumphantly. "I don't suppose he understands *why*, just yet . . . but Instinct urges him infallibly to assemble the materials for his future homesite."

JUNIOR let the rock fragment fall, and began plucking restlessly at a coral outcropping.

"Dear," said Mater, "don't you think you ought to tell him . . .?"

"Ahem!" said Pater. "The wisdom of Instinct—"

"As you've always said, a polyp needs a parent's guidance," remarked Mater.

"Ahem!" repeated Pater. He straightened his stalk, and bellowed authoritatively, "JUNIOR! Come here!"

The prodigal polyp swam warily close. "Yes, Pater?"

"Junior," said his parent solemnly, "now that you are about to grow down, it behooves you to know certain facts."

Mater blushed a delicate lavender and turned away on her side of the rock.

"Very soon now," said Pater, "you will begin feeling an irresistible urge . . . to sink to the bottom, to take root there in some sheltered location which will be your lifetime site. Perhaps you even have an understanding already with some . . . ah . . . charming young polyp of the opposite gender, whom you would invite to share your homesite. Or, if not, you should take all the more pains to make that site as attractive as possible, in order that such a one may decide to grace it with—"

"Uh-huh," said Junior under-

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standingly. "That's what the fellows mean when they say any of 'em'll fall for a few high-class rocks."

Pater marshaled his thoughts again. "Well, quite apart from such material considerations as selecting the right rocks, there are certain . . . ah . . . matters we do not ordinarily discuss."

Mater blushed a more pronounced lavender. The three maiden aunts, rooted to their boulder within easy earshot of Pater's carrying voice, put up a respectable pretense of searching one another for nonexistent water-fleas.

"No doubt," said Pater, "in the course of your harum-scarum adventurings as a normal polyp among polyps, you've noticed the ways in which the lower orders reproduce themselves; the activities of the fishes, the crustacea, the marine worms will not have escaped your attention."

"Uh-huh," said Junior, treading water.

"YOU will have observed that among these there takes place a good deal of . . . ah . . . maneuvering for position. But among intelligent, firmly rooted beings like ourselves, matters are, of course, on a less crude and direct plane. What among lesser creatures is a question of tactics belongs, for us, to the realm of strategy." Pater's tone grew confiding. "Now, Junior, once you're settled you'll realize the importance of being easy in your mind about your offspring's parentage. Remember, a niche in brine saves trying. Nothing like choosing your location well in the first place. Study the currents around your prospective site — particularly their direction and force at such crucial times as flood-tide. Try to make sure you and your future mate won't be too close down-current from anybody else's site, since in a case like that accidents can happen. You understand, Junior?"

"Uh-huh," acknowledged Junior. "That's what the fellows mean when they say don't let anybody get the drop on you."

"Well!" said Pater in flat disapproval.

"But it all seems sort of silly," said Junior stubbornly. "*I'd* rather just keep moving around, and not have to do all that figuring. And the ocean's full of things I haven't seen yet. I don't *want* to grow down!"

Mater paled with shock. Pater gave his spawn a scalding, scandalized look. "You'll learn! You can't beat Biology," he said thickly, creditably keeping his voice down. "Junior, you may go!"

Junior bobbled off, and Pater admonished Mater sternly, "We must have patience, my dear! All

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children pass through these larval stages . . ."

"Yes, dear," sighed Mater.

AT LONG last, Junior seemed to have resigned himself to making the best of it.

With considerable exertions, hampered by his increasing bottom-heaviness, he was fetching loads of stones, seaweed and other debris to a spot downslope, and there laboring over what promised to be a fairly ambitious cairn. Judging by what they could see of it, his homesite might even prove a credit to the colony (so went Pater's thoughts) and attract a mate who would be a good catch (thus Mater mused).

Junior was still to be seen at times along the reef in company with his free-swimming friends among the other polyps, at some of whom his parents had always looked askance, fearing they were by no means well-bred. In fact, there was strong suspicion that some of them — waifs from the disreputable Shallows district in the hazardous reaches just below the tide-mark — had never been bred at all, but were products of budding, a practice frowned on in polite society.

However, Junior's appearance and rate of locomotion made it clear he would soon be done with juvenile follies. As Pater repeated with satisfaction — you can't beat Biology; as one becomes more and more bottle-shaped, the romantic illusions of youth must inevitably perish.

"I always knew there was sound stuff in the youngster," declared Pater expansively.

"At least he won't be able to go around with those ragamuffins much longer," breathed Mater thankfully.

"What does the young fool think he's doing, fiddling round with soapstone?" grumbled Pater, peering critically through the green to try to make out the details of Junior's building. "Doesn't he know it's apt to slip its place in a year or two?"

"Look, dear," hissed Mater acidly, "isn't that the little polyp who was so rude once? . . . I wish she wouldn't keep watching Junior like that. Our northwest neighbor heard *positively* that she's the child of an only parent!"

"Never mind." Pater turned to reassure her. "Once Junior is properly rooted, his self-respect will cause him to keep riffraff at a distance. It's a matter of Psychology, my dear; the vertical position makes all the difference in one's thinking."

THE great day arrived.

Laboriously Junior put a few finishing touches to his construction — which, so far as could be seen from a distance, had turned

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out decent-looking enough, though it was rather questionably original in design: lower and flatter than was customary.

With one more look at his handiwork, Junior turned bottom-end-down and sank wearily onto the finished site. After a minute, he paddled experimentally, but flailing tentacles failed to lift him. He was already rooted, and growing more solidly so by the moment.

"Congratulations!" cried the neighbors. Pater and Mater bowed this way and that in acknowledgment. Mater waved a condescending tentacle to the three maiden aunts.

"I told you so!" said Pater triumphantly.

"Yes, dear . . ." said Mater meekly.

Suddenly there were outcries of alarm from the dwellers down-reef. A wave of dismay swept audibly through all the nearer part of the colony. Pater and Mater looked around, and froze.

Junior had begun paddling again, but this time in a most peculiar manner — with a rotary twist and sidewise scoop which looked awkward, but which he performed so deftly that he must have practiced it. Fixed upright as he was now on the platform he had built, he looked for all the world as if he were trying to swim sidewise.

"He's gone *mad!*" squeaked Mater.

"I . . ." gulped Pater, "I'm afraid not."

At least, they saw, there was method in Junior's actions. He went on paddling in the same fashion and now he, and his platform with him, were farther away than they had been, and growing more remote as they stared.

PARTS of the homesite that was not a homesite revolved in some way incomprehensible to eyes that had never seen the like. And the whole affair trundled along, rocking at bumps in the sandy bottom, and squeaking painfully; nevertheless, it moved.

The polyps watching from the reef swam out and frolicked after Junior, watching his contrivance go and chattering eager questions, while their parents bawled at them to keep away from that.

The three maiden aunts shrieked faintly and swooned in one another's tentacles. The colony was shaken as it had not been since the tidal wave.

"COME BACK!" thundered Pater. "You CAN'T do that!"

"*Come back!*" shrilled Mater. "You can't do *that!*"

"Come back!" gabbled the neighbors. "You can't *do* that!"

But Junior was past listening to reason. Junior was on wheels.

— ROBERT ABERNATHY

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the Gravity Business

By JAMES E. GUNN

This little alien beggar could dictate his own terms, but how could he—and how could anyone find out what those terms might be?

Illustrated by ASHMAN

THE FLIVVER descended vertically toward the green planet circling the old, orange sun.

It was a spaceship, but not the kind men had once dreamed about. The flivver was shaped like a crude bullet, blunt at one end of a fat cylinder and tapering abruptly to a point at the other.

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It had been slapped together out of sheet metal and insulation board, and it sold, fully equipped, for $15,730. It didn't behave like a spaceship, either.

As it hurtled down, its speed increased with dramatic swiftness. Then, at the last instant before impact, it stopped. Just like that.

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A moment later, it thumped a last few inches into the ankle-deep grass and knee-high white flowers of the meadow. It was a shock of a jar that made the sheet-metal walls boom like thunder machines. The flivver rocked unsteadily on its flat stern before it decided to stay upright.

Then all was quiet — outside.

Inside the big, central cabin, Grampa waved his pircuit irately in the air. "Now look what you made me do! Just when I had the blamed thing practically whipped, too!"

Grampa was a white-haired 90-year-old who could still go a fast round or two with a man (or woman) half his age, but he had a habit of lapsing into tantrum when he got annoyed.

"Now, Grampa," Fred soothed, but his face was concerned. Fred, once called Young Fred, was Grampa's only son. He was sixty and his hair had begun to gray at the temples. "That landing *was* pretty rough, Junior."

JUNIOR WAS Fred's only son. Because he was thirty-five and capable of exercising adult judgment and because he had the youngest adult reflexes, he sat in the pilot's chair, the control stick between his knees, his thumb still over the Off-On button on top. "I know it, Fred," he said, frowning. "This world fooled me. It has a diameter less than that of Mercury and yet a gravitational pull as great as Earth."

Grampa started to say something, but an 8-year-old boy looked up from the navigator's table beside the big computer and said, "Well, gosh, Junior, that's why we picked this planet. We fed all the orbital data into Abacus, and Abacus said that orbital perturbations indicated that the second planet was unusually heavy for its size. Then Fred said, 'That looks like heavy metals', and you said, 'Maybe uranium —'"

"That's enough, Four," Junior interrupted. "Never mind what I said."

Those were the Peppergrass men, four generations of them, looking remarkably alike, although some vital element seemed to have dwindled until Four looked pale and thin-faced and wizened.

"And, Four," Reba said automatically, "don't call your father 'Junior.' It sounds disrespectful."

Reba was Four's mother and Junior's wife. On her own, she was a red-haired beauty with the loveliest figure this side of Antares. That Junior had won her was, to Grampa, the most hopeful thing he had ever noticed about the boy.

"But everybody calls Junior

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'Junior,'" Four complained. "Besides, Fred is Junior's father and Junior calls him 'Fred.'"

"That's different," Reba said.

Grampa was still waving his puzzle circuit indignantly. "See!" The pircuit was a flat box equipped with pushbuttons and thirteen slender openings in the top. One of the openings was lighted. "That landing made me push the wrong button and the dad-blasted thing beat me again."

"Stop picking on Junior," Joyce said sharply. She was Junior's mother and Fred's wife, still slim and handsome as she approached sixty, but somehow ice water had replaced the warm blood in her veins. "I'm sure he did the best he could."

"Anybody talks about gravitational pull," Grampa said, snorting, "deserves anything anybody could say about him. There's no such thing, Junior. You ought to know by now that gravitation is the effect of the curving of space-time around matter. Einstein proved that two hundred years ago."

"Go back to your games, Grampa," Fred said impatiently. "We've got work to do."

GRAMPA KNITTED his bushy, white eyebrows and petulantly pushed the last button on his pircuit. The last light went out. "You've got work to do, have you? Whose flivver do you think this is, anyhow?"

"It belongs to all of us," Four said shrilly. "You gave us all a sixth share."

"That's right, Four," Grampa muttered, "so I did. But whose money bought it?"

"You bought it, Grampa," Fred said.

"That's right! And who invented the gravity polarizer and the space flivver? Eh? Who made possible this gallivanting all over space?"

"You, Grampa," Fred said.

"You bet! And who made one hundred million dollars out of it that the rest of you vultures are just hanging around to gobble up when I die?"

"And who spent it all trying to invent perpetual motion machines and longevity pills," Joyce said bitterly, "and fixed it so we'd have to go searching for uranium and habitable worlds all through this deadly galaxy? You, Grampa!"

"Well, now," Grampa protested, "I got a little put away yet. You'll be sorry when I'm dead and gone."

"You're never going to die, Grampa," Joyce said harshly. "Just before we left, you bought a hundred-year contract with that Life-Begins-At-Ninety longevity company."

"Well, now," said Grampa, blinking, "how'd you find out

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about that? Well, now!" In confusion, he turned back to the pircuit and jabbed a button. Thirteen slim lights sprang on. "I'll get you this time!"

Four stretched and stood up. He looked curiously into the corner by the computer where Grampa's chair stood. "You brought that pircuit from Earth, didn't you? What's the game?"

Grampa looked up, obviously relieved to drop his act of intense concentration. "I'll tell you, boy. You play against the pircuit, taking turns, and you can put out one, two or three lights. The player who makes the other one turn out the last light is the winner."

"That's simple," Four said without hesitation. "The winning strategy is to — "

"Don't be a kibitzer!" Grampa snapped. "When I need help, I'll ask for it. No dad-blamed machine is gonna outthink Grampa!" He snorted indignantly.

FOUR SHRUGGED his narrow shoulders and wandered to the view screen. Within it was the green horizon, curving noticeably. Four angled the picture in toward the ship, sweeping through green, peaceful woodland and plain and blue lake until he stared down into the meadow at the flivver's stern.

"Look!" he said suddenly. "This planet not only has flora — it has fauna." He rushed to the air lock.

"Four!" Reba called out warningly.

"It's all right, Reba," Four assured her. "The air is within one per cent of Earth-normal and the bio-analyzer can find no micro-organisms viable within the Terran spectrum."

"What about macro-organisms — " Reba began, but the boy was gone already. Reba's face was troubled. "That boy!" she said to Junior. "Sometimes I think we've made a terrible mistake with him. He should have friends, playmates. He's more like a little old man than a boy."

But Junior nodded meaningfully at Fred and disappeared into the chart room. Fred followed casually. Then, as the door slid shut behind him, he asked impatiently. "Well, what's all the mystery?"

"No use bothering the others yet," Junior said, his face puzzled. "You see, I didn't let the flivver drop those last few inches. The polarizer quit."

"Quit!"

"That's not the worst. I tried to take it up again. The flivver — it won't budge!"

THE THING was a featureless blob, a two-foot sphere of raspberry gelatin, but it was alive. It rocked back and forth in front

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of Four. It opened a raspberry-color pseudo-mouth and said plaintively, "Fweep? Fweep?"

Joyce drew her chair farther back toward the wall, revulsion on her face. "Four! Get that nasty thing out of here!"

"You mean Fweep?" Four asked in astonishment.

"I mean that thing, whatever you call it." Joyce fluttered her hand impatiently. "Get it out!"

Four's eyes widened farther. "But Fweep's my friend."

"Nonsense!" Joyce said sharply. "Earthmen don't make friends with aliens. And that's nothing but a — a blob!"

"Fweep?" queried the raspberry lips. "Fweep?"

"If it's Four's friend," Reba said firmly, "it can stay. If you don't like to be around it, Grammy, you can always go to your own room."

Joyce stood up indignantly. "Well! And don't call me 'Grammy!' It makes me sound as old as that old goat over there!" She glared malignantly at Grampa. "If you'd rather have that blob than me—well!" She swept grandly out of the central cabin and into one of the private rooms that opened out from it.

"Fweep?" asked the blob.

"Sure," Four said. "Go ahead, fweep — I mean sweep."

Swiftly the sphere rolled across the floor. Behind it was left a narrow path of sparkling clean tile.

Grampa glanced warily at Joyce's door to make sure it was completely closed and then cocked a white eyebrow at Reba. "Good for you, Reba!" he said admiringly. "For forty years now, I've wanted to do that. Never had the nerve."

"Why, thanks, Grampa," Reba said, surprised.

"I like you, gal. Never forget it."

"I like you, too, Grampa. If you'd been a few years younger, Junior would have had competition!"

"You bet he would!" Grampa leaned back and cackled. Then he leaned over confidentially toward Reba and whispered, "Beats me why you ever married a jerk like Junior, anyhow."

Reba looked thoughtfully toward the airlock door. "Maybe I saw something in him nobody else saw, the man he might become. He's been submerged in this family too long; he's still a child to all of you and to himself, too." Reba smiled at Grampa brilliantly. "And maybe I thought he might grow into a man like his grandfather."

GRAMPA TURNED red and looked quickly toward Four. The boy was staring intently at Fweep. "What you doing, Four?"

"Trying to figure out what

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Fweep does with the sweepings," Four said absently. "The outer inch or two of his body gets cloudy and then slowly clears. I think I'll try him with a bigger particle."

"That's the idea, Four. You'll be a Peppergrass yet. How about building me a pircuit?"

"You get the other one figured out?"

"It was easy," Grampa said breezily, "once you understood the principle. The player who moved second could always win if he used the right strategy. Dividing the thirteen lights into three sections of four each—"

"That's right," Four agreed. "I can make you a new one by cannibalizing the other pircuit, but I'll need a few extra parts."

Grampa pushed the wall beside his chair and a drawer slid out of it.

Inside were row after row of nipple-topped, flat-sided, flexible free-fall bottles and a battered cigar box. "Thought you'd say that," he said, picking out the box. "Help yourself." With the other hand, he lifted out one of the bottles and took a long drag on it. "Ahhh!" he sighed, wiped his mouth with the back of his hand, and carefully put the bottle away.

"What is that stuff you drink, Grampa?" Four asked.

"Tonic, boy. Keeps me young and frisky. Now about that pircuit—"

"Did you ever work on Niccolò Tartaglia's puzzle about the three lovely brides, the three jealous husbands, the river and the two-passenger rowboat?"

"Yep," Grampa said. "Too easy."

Four thought a moment. "There's a modern variation with three missionaries and three cannibals. Same river, same rowboat and only one of the cannibals can row. If the cannibals outnumber the missionaries—"

"Sounds good, boy," Grampa said eagerly. "Whip it up for me."

"Okay, Grampa." Four looked at Fweep again. The translucent sphere had paused at Grampa's feet.

Grampa reached down to pat it. For an instant, his hand disappeared into Fweep, and then the alien creature rolled away. This time its path seemed crooked.

Its gelatinous form jiggled. "Hic!" it said.

AS IF IN response, the flivver vibrated. Grampa looked querulously toward the airlock. "Flivver shouldn't shake like that. Not with the polarizer turned on."

The airlock door swung inward. Through the oval doorway walked Fred, followed closely by Junior. They were sweat-stained and weary, scintillation counters dang-

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ling heavily from their belts.

"Any luck?" Reba asked brightly.

"Do we look it?" Junior grumbled.

"Where's Joyce?" asked Fred. "Might as well get everybody in on this at once. Joyce!"

The door to his wife's room opened instantly. Behind it, Joyce was regal and slim. The pose was spoiled immediately by her avid question: "Any uranium? Radium? Thorium?"

"No," Fred said slowly, "and no other heavy metals, either. There's a few low-grade iron deposits and that's it."

"Then what makes this planet so heavy?" Reba asked.

Junior shrugged helplessly and collapsed into a chair. "Your guess is as good as anybody's."

"Then we've wasted another week on a worthless rock," Joyce complained. She turned savagely on Fred. "This was going to make us all filthy rich. We were going to find radioactives and retire to Earth like billionaires. And all we've done is spent a year of our lives in this cramped old flivver — and we don't have many of them to spare!" She glared venomously at Grampa.

"We've still got Fweepland," Four said solemnly.

"Fweepland?" Reba repeated.

"This planet. It's not big, but it's fertile and it's harmless. As real estate, it's worth almost as much as if it were solid uranium."

"A good thing, too," Junior said glumly, "because this looks like the end of our search. Short of a miracle, we'll spend the rest of our lives right here — involuntary colonists."

Joyce spun on him. "You're joking!" she screeched.

"I wish I were," Junior said. "But the polarizer won't work. Either it's broken or there's something about the gravity around here that just won't polarize."

"It's these '23 models," Grampa put in disgustedly. "They never were any good."

THE LAND OF the Fweep turned slowly on its axis. The orange sun set and rose again and stared down once more at the meadow where the improbable spaceship rested on its improbable stern. The sixteen Earth hours that the rotation had taken had changed nothing inside the ship, either.

Grampa looked up from his pircuit and said, "If I were you, Junior, I would take a good look at the TV repairman when we get back to Earth. *If* we get back to Earth," he amended. "You can't be Four's father. All over the Universe, gravity is the same, and if it's gravity, the polarizer will polarize it."

"That's just supposition," Jun-

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ior said stubbornly. "The fact is, it isn't because it doesn't. Q.E.D."

"Maybe the polarizer is broken," Fred suggested.

Grampa snorted. "Brokenshmoken. Nothing to break, Young Fred. Just a few coils of copper wire and they're all right. We checked. We know the power plant is working: the lights are on, the air and water recirculation systems are going, the food resynthesizer is okay. And, anyway, the polarizer could work from the storage battery if it had to."

"Then it goes deeper," Junior insisted. "It goes right to the principle of polarization itself. For some reason, it doesn't work here. Why? Before we can discover the answer to that, we'll have to know more about polarization itself. How does it work, Grampa?"

Grampa gave him a sarcastic grin. "Now you're curious, eh? Couldn't be bothered with Grampa's invention before. Oh, no! Too busy. Accept without question the blessings that the Good Lord provideth — "

"Let's not get up on any pulpits," Fred growled. "Come on, Grampa, what's the theory behind polarization?"

Grampa looked at the four faces staring at him hopefully and the jeering grin turned to a smile. "Well," he said, "at last. You know how light is polarized, eh?" The smile faded. "No, I guess you don't."

HE CLEARED his throat professorially. "Well, now, in ordinary light the vibrations are perpendicular to the ray in all directions. When light is polarized by passing through crystals or by reflection or refraction at non-metallic surfaces, the paths of the vibrations are still perpendicular to the ray, but they're in straight lines, circles or ellipses."

The faces were still blank and unillumined.

"Gravity is similar to light," he pressed on. "In the absence of matter, gravity is non-polarized. Matter polarizes gravity in a circle around itself. That's how we've always known it until the invention of spaceships and later the polarizer. The polarizer polarizes gravity into a straight line. That makes the ship take off and continue accelerating until the polarizer is shut off or its angle is shifted."

The faces looked at him silently. Finally Joyce could endure it no longer. "That's just nonsense! You all know it. Grampa's no genius. He's just a tinkerer. One day he happened to tinker out the polarizer. He doesn't know how it works any more than I do."

"Now wait a minute!" Grampa protested. "That's not fair. Maybe

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I didn't figure out the theory myself, but I read everything the scientists ever wrote about it. Wanted to know myself what made the blamed thing work. What I told you is what the scientists said, near as I remember. Now me — I'm like Edison. I do it and let everybody else worry over 'why.'"

"The only thing you ever did was the polarizer," Joyce snapped. "And then you spent everything you got from it on those fool perpetual-motion machines and those crazy longevity schemes when any moron would know they were impossible."

Grampa squinted at her sagely. "That's what they said about the gravity polarizer before I invented it."

"But you don't really know why it works," Junior persisted.

"Well, no," Grampa admitted. "Actually I was just fiddling around with some coils when one of them took off. Went right through the ceiling, dragging a battery behind it. I guess it's still going. Ought to be out near the Horsehead Nebula by now. Luckily, I remembered how I'd wound it."

"Why won't the ship work then, if you know so much?" Joyce demanded ironically.

"Well, now," Grampa said in bafflement, "it rightly should, you know."

"WE'RE STUCK," Reba said softly. We might as well admit it. All we can do is set the transmitter to send out an automatic distress call — "

"Which," Joyce interrupted, "might get picked up in a few centuries."

"And make the best of what we've got," Reba went on, unheeding. "If we look at it the right way, it's quite a lot. A beautiful, fertile world. Earth gravity. The flivver — even if the polarizer won't work, there's the resynthesizer; it will keep us in food and clothes for years. By then, we should have a good-sized community built up, because out here we won't have to stop with one child. We can have all the babies we want."

"You know the law: one child per couple," Joyce reminded her frigidly. "You can condemn yourself to exile from civilization if you wish. Not me."

Junior frowned at his wife. "I believe you're actually glad it happened."

"I could think of worse things," Reba said.

"I like your spunk, Reb," Grampa muttered.

"Speaking of children," Junior said, "where's Four?"

"Here." Four came through the airlock and trudged across the room, carrying a curious contraption made of tripod legs support-

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ing a small box from which dangled a plumb bob. Behind Four, like a round, raspberry shadow, rolled Fweep.

"Fweep?" it queried hopefully.

"Not now," said Four.

"Where've you been?" Reba asked anxiously. "What've you been doing?"

"I've been all over Fweepland," Four said wearily, "trying to locate its center of gravity."

"Well?" Fred prompted.

"It shifts."

"That's impossible," said Junior.

"Not for Fweep," Four replied.

"What do you mean by that?" Joyce suspiciously asked.

"It shifted," Four explained patiently, "because Fweep kept following me."

"Fweep?" Junior repeated stupidly.

"Fweep?" Fweep said eagerly.

"He's why the flivver won't work. What Grampa invented was a linear polarizer. Fweep is a circular polarizer. He's what makes this planet so heavy. He's why we can't leave."

THE LAND of the Fweep rotated once on its axis, and Grampa lowered the nippled bottle from his lips. He sighed. "I got it figured out, Four," he said, holding out the pircuit proudly. "A missionary takes over a nonrowing type cannibal, leaves him there, and then the rowing cannibal takes over the other cannibal and leaves him there and — "

"Not now, Grampa," Four said inattentively as he watched Fweep making the grand tour of the cabin.

The raspberry sphere swept over a scattering of crumbs, engulfed them, absorbed them. Four looked at Joyce. Joyce was watching Fweep, too.

"Rat poison?" Four asked.

Joyce started guiltily. "How did you know?"

"There's no use trying to poison Fweep," Four said calmly. "He's got no enzymes to act on, no nervous system to paralyze. He doesn't even use what he 'eats' on a molecular level at all."

"What level does he use?" Junior wanted to know.

"Point the scintillation counter at him."

Junior dug one of the counters out of the supply cabinet and aimed the pickup at Fweep. The counter began to hum. As Fweep approached, the hum rose in pitch. As it passed, the hum dropped.

Junior looked at the counter's dial. "He's radioactive, all right. "Not much, but enough. But where does he get the radioactive material?"

"He uses ordinary matter," Four said. "He must have used up the few deposits of natural

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radioactives a long time ago."

"He uses ordinary substances on an atomic level?" Junior said unbelievingly.

Four nodded. "And that 'skin' of his — whatever it is he uses for skin — is more efficient in stopping particle emissions than several feet of lead."

Fred studied Fweep thoughtfully. "Maybe we could feed him enough enriched uranium from the pile to put him over the critical mass."

"And blow him up? I don't think it's possible, but even if it were, it might be a trifle more than disastrous for us." Four giggled at the thought.

JOYCE GLARED at him furiously. "Four! Act your age! We've got to do something with him. It's preposterous that we should be detained here at the whim of a mere blob!"

"I don't figure it's a whim," Grampa said. "Circular gravity is what he's got to have for one reason or another, so he just naturally bends the space-time continuum around him — conscious or subconscious, I don't know. But protoplasm is always more efficient than machines, so the flivver won't move."

"I don't care why that thing does it," Joyce said icily. "I want it stopped, and the sooner the better. If it won't turn the gravity off, we'll just have to do away with it."

"How?" asked Four. "Fweep's skin is pretty close to impervious and you can't shoot him, stab him or poison him. He doesn't breathe, so you can't drown or strangle him. You can't imprison him; he 'eats' everything. And violence might be more dangerous to us than to him. Right now, Fweep is friendly, but suppose he got mad! He could lower his radioactive shield or he might increase the gravity by a few times. Either way, you'd feel rather uncomfortable, Grammy."

"Don't call me 'Grammy!' Well, what are we going to do, just sit around and wait for that thing to die?"

"We'd have a long wait," Four observed. "Fweep is the only one of his kind on this planet."

"Well?"

"Probably he's immortal."

"And he doesn't reproduce?" Reba asked sympathetically.

"Probably not. If he doesn't die, there's no point in reproduction. Reproduction is nature's way of providing racial immortality to mortal creatures."

"But he must have some way of reproduction," Reba argued. "An egg or something. He couldn't just have sprung into being as he is now."

"Maybe he developed," Four offered. "It seems to me that he's

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bigger than when we first landed."

"He must have been here a long, long time," Fred said. "Fweepland, as Four calls it, kept its atmosphere and its water, which a planet this size ordinarily would have lost by now."

REBA LOOKED at Fweep kindly. "We can thank the little fellow for that, anyway."

"I thank him for nothing," Joyce snapped. "He lured us down here by making us think the planet had heavy metals and I want him to let us go *immediately!*"

Fred turned impatiently on his wife. "Well, try making him understand! And if you can make him understand what you want him to do, try making him do it!"

Joyce looked at Fred with startled eyes. "Fred!" she said in a high, shocked voice and turned blindly toward her room.

Grampa lowered his bottle and smacked his lips. "Well, boy," he said to Fred, "I thought you'd never do that. Didn't think you had it in you."

Fred stood up apologetically. "I'd better go calm her down," he muttered, and walked quickly after Joyce.

"Give her one for me!" Grampa called.

Fred's shoulders twitched as the door closed behind him. From the room came the filtered sound of high-pitched voices rising and falling like some reedy folk music.

"Makes you think, doesn't it?" Grampa said, looking at Fweep benignly. "Maybe the whole theory of gravitation is cockeyed. Maybe there's a Fweep for every planet and sun, big and little, polarizing the gravity in circles, and the matter business is not a cause but a result."

"What I can't understand," Junior said thoughtfully, "is why the polarizer worked for a little while when we landed — long enough to keep us from being squashed — and then quit."

"Fweep didn't recognize it immediately, didn't know what it was or where it came from," Four explained. "All he knew was he didn't like linear polarization and he neutralized it as soon as he could. That's when we dropped."

"LINEAR POLARIZATION is uncomfortable for him, is it?" Grampa said. "Makes you wonder how something like Fweep could ever develop."

"He's no more improbable than people," said Four.

"Less than some I've known," Grampa conceded.

"If he can eat anything," Reba said, "why does he keep sweeping the cabin for dust and lint?"

"He wants to be helpful," Four

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replied without hesitation, "and he's lonely. After all," he added wistfully, "he's never had any friends."

"How do you know all these things?" Joyce asked from her doorway, excitement in her voice. "Can you talk to it?"

Behind her, Fred said, "Now, Joyce, you promised—"

"But this is important," Joyce cut him off eagerly. "Can you? Talk to it, I mean?"

"Some," Four admitted.

"Have you asked it to let us go?"

"Yes."

"Well? What did it say?"

"He said he didn't want his friend to leave him."

At the word, Fweep rolled swiftly across the floor and bounced into Four's lap. It nestled against him lovingly and opened raspberry lips. "Fwiend," it said.

"Well, now," Grampa said maliciously, his eye on Joyce, "that's no problem. We can just leave Four here with Fweep."

In a voice filled with sanctimonious concern, Joyce said, "That's quite a sacrifice to ask, but—"

"Joyce!" Reba cried, horrified. "Grampa was joking, but you actually mean it. Four is only a baby and yet you'd let him—"

"Never mind, Reba," Four said evenly. "It was just what I was going to suggest myself. It's the one really logical solution."

"Fwiend," said Fweep gently.

THE LAND of the Fweep turned like a fat old man toasting himself in front of an open fire, and Junior sat at the computer's keyboard swearing in a steady monotone.

"Junior!" said Joyce, shocked.

Junior swung around impatiently. "Sorry, Mother, but this damned thing won't work."

"I'm sure that calling it names won't help, and besides, you shouldn't expect a machine to do something that we can't do. And if it did work, it would only say that the logical answer is the one I sug—"

"Mother!" Junior warned. "We decided not to talk about it any more. Four is strange enough without encouraging him to think like a martyr. It's out of the question. If that's the only way we can leave this planet, we'll stay here until Four has a beard as white as Grampa's!"

"Well!" Joyce said in a stiff, offended tone and sat back in her chair.

Grampa lowered the nippled bottle from his lips and chortled. "Junior, I apologize for all the mean things I ever said about you. Maybe you got the makings of a Peppergrass yet."

Junior turned back to the keyboard and studied it, his chin in

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his hand. "It's just a matter of stating the problem in terms the computer can work on."

"I take it all back," said Grampa. "That computer won't help you with this problem, Junior. This ain't a long, complicated calculation; it's a simple problem in logic. It's a pircuit problem, like the one about the cannibals and the missionaries. We can't leave Fweepland because Fweep won't let our polarizer work. He won't let our polarizer work because he doesn't like gravity that's polarized in a straight line, and he don't want Four to leave him.

"Now Fweep ain't the brightest creature in the Universe, so he can't understand why we're so gosh-fired eager to leave. And as long as he's got Four, he's happy. Why should he make himself unhappy? As a favor to Four, he'd let us leave — if we'd leave Four here with him, which we ain't gonna do.

"That's the problem. All we got to do is figure out the answer. No use making a pircuit, because a puzzle circuit is just a minature computer with the solution built in; if you can build the pircuit, you've already solved the problem. And if you can state the problem to Abacus, you've already got the answer. All you want from it then is decimal points."

"That may be," Junior said stubbornly, "but I still want to know why this computer won't work. It won't even do simple arithmetic! Where's Four? He's the only one who understands this thing."

"He's outside, playing in the meadow with Fweep," Reba said, her voice soft. "No, here they come now."

THROUGH THE airlock came Four, carrying Fweep on his shoulder like a raspberry cat without head or tail. Four's thin face glowed with exertion and glistened with sweat. Already the orange sun had begun to paint his skin tan.

"We've been playing dodge ball," Four panted. "Fweep was the ball and I had to dodge him."

"There's something wrong with this computer," Junior complained. "Take a look at it."

"Sure, Daddy," Four said promptly, and he took his father's place at the keyboard. After a few moments, he began to frown, then detached a front panel. He started sorting through the maze of wires and electronic components.

Grampa watched him with a wary eye.

Joyce was unable to restrain herself any longer. "The way you people talk, a person would think we were never going to leave this

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godforsaken, miserable, uncivilized planet."

"That seems to be the general idea," Grampa chuckled, enjoying her dismay.

"Unless we can build a reaction rocket ship to push us out of Fweep's range," Fred said glumly.

"We've got the iron ore!" Junior put in eagerly.

Grampa snorted. "Come on, use your brains. You'd have to build a ship; these flivvers weren't built for the stresses of reaction flight. By the time you've solved all the problems of motors and alloys and rocket-tube linings, fuel, ship construction, personnel protection, and all the rest of it, this planet would be another Detroit and your great-great-great-grandchildren would be living in it. You couldn't build a blast furnace even if you had the complete Congressional microfilm library! You'd do better trying to figure out how Fweep does what he does and doing some practicing on that."

"Well," Junior said peevishly, "trying to get away is better than sitting here talking about it."

Reba stared thoughtfully at Junior and said, "Maybe Fweep would go with us."

"Yes!" Joyce said excitedly. "Maybe the dear little thing *would* go with us. That would solve everything!"

WITHOUT looking around, Four said, "I asked him already. Fweep's afraid to come along."

"I'm sure we would be very good to him," Joyce said swiftly. "I've always liked pets. Why, I once had a goldfish of my very own!"

"Which you let die," Fred said dryly, "because you forgot to feed it."

"Oh, he's not afraid of *people*," Four told them. "He's afraid of space and unpolarized gravity and things like that. He's lived here all his life — that's a long time — and it makes him feel awful funny just to think about leaving. He says he can still remember the way our linear gravitation felt inside when we landed."

"Well," Joyce said firmly, "he'll just have to fight it, that's all. If a person let that kind of neurotic impulse rule his life, he'd be completely demoralized in no time."

Four glanced over his shoulder at Joyce, as if to see if she were joking. Shaking his head, he returned to the computer's innards. A moment later, he swung around and stared accusingly at Grampa. "You've cannibalized Abacus!"

"Well, now," Grampa protested, licking his lips nervously. "You see, I—"

"That's where you got the parts

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for the pircuits!" Four said with merciless logic.

Joyce stood up virtuously and shook her finger at Grampa. "First you entice us out here in this nasty old flivver; then you get us stuck; and now you've ruined the computer for your nasty old games!"

"Well, now," Grampa blustered, "the goldarn thing wouldn't work, would it? We didn't need it — not with Four around. He figures everything out in his head and we just used Abacus to sort of check him. Ain't that right now?"

Five pairs of eyes stared at him in silence.

"Well, now," Grampa said defensively, "I got it all worked out anyhow. We can leave here any time we get ready."

THE LAND of the Fweep turned and grew small in the view screen, and Junior sat in the pilot's chair, his hand on the control stick, his eyes fixed on the moving dials in front of him.

There were three others in the room: Reba, who looked at the dwindling Fweepland and sighed; Joyce, who sat tautly in her chair, her face fixed and unbelieving; and Fred, who looked at Joyce and shook his head.

Grampa opened the door to his room and stepped cockily into the central cabin, shutting the door behind him. "Well?" he demanded confidently. "Are we heading for Earth?"

Junior gestured toward the screen. "If Four's coordinates are right."

"Speaking of coordinates," Grampa said briskly, "make sure we got the coordinates of Fweepland. It'll take a long time for that atmosphere to dissipate. A nice little world like that is worth its weight in uranium to a good real estate salesman."

"How did you do it?" Joyce challenged.

Grampa slapped her familiarly on the shoulder. "A problem of gravity," he said gayly, "but a simple one. Nothing for an old pircuit man like me. I guess you folks won't laugh at Grampa and his pircuits any more. Not only did Grampa get you out of Fweepland, but he's taking you back with a valuable little subdivision in the third quadrant to file on."

"I hate to spoil the party," Fred said, "but have you thought about what you're going to do with Fweep?"

"Fweep?" Grampa repeated, puzzled. "Why should I do anything with Fweep?"

"We can't take him back to Earth with us."

"Why not?" Grampa demanded.

"In the first place, the Immigration Authority would have to pass on him. That might take years, with Fweep's powers and

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abilities. More important, if Fweep got loose on Earth, every flivver would have the same problem there that we had here. And next time Fweep might not be so cooperative. I don't know what you did to Fweep in there, but if he's still alive, the I.A. isn't going to take a chance."

Grampa considered the prospect without dismay. "I wonder if we could smuggle him in. With all those flivvers not working, they'd have to pay us before they could take off."

"Grampa!" Fred said sternly. "That would be blackmail — or worse. Besides getting in trouble with the I.A., you'd get it from the W.B.I. and the I.C.C."

GRAMPA WAVED his hand impatiently. "We'll solve that problem when we come to it. After all, an old pircuit man like me — "

"What *did* you *do* to Fweep?" Joyce repeated insistently.

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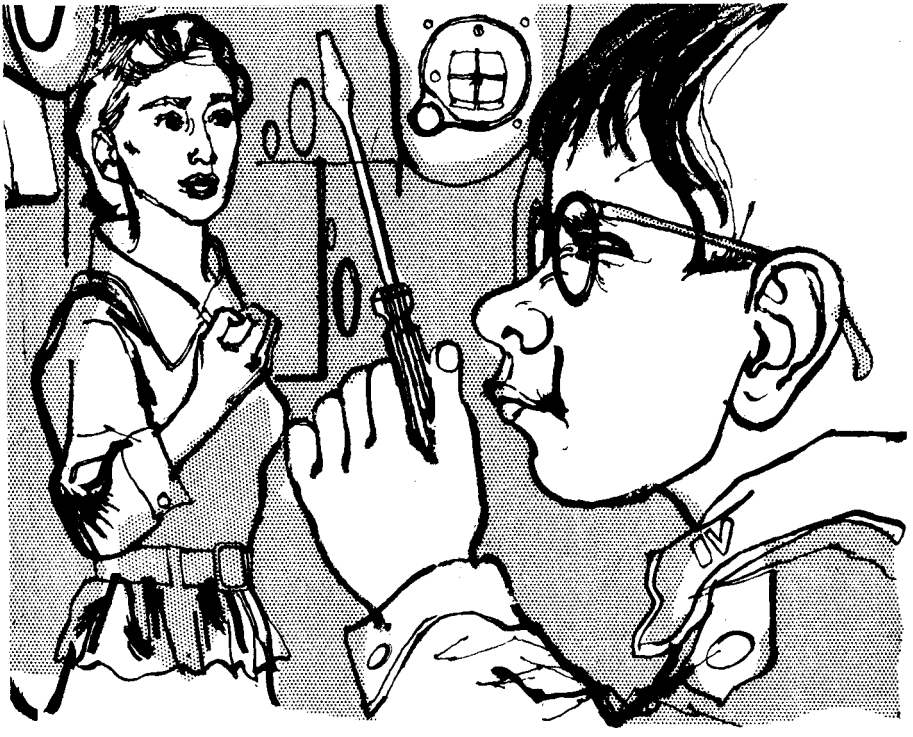

Grampa cleared his throat with pride. "Well, now, I'll tell you. I just happened to notice that Fweep liked my tonic. Every time I took a little nip, the little beast was around my chair, trying to clean my hand for me."

"Tonic!" Joyce sniffed. "Liquor, you mean!"

"Now that's not right," Grampa objected. "I said tonic and I mean tonic. Got a little alcohol in it for a preservative, maybe, but the important part is the minerals. That's the Longevity Institute's secret. It's what keeps me young. Want a little nip?" He leered at Joyce.

"You mean you got Fweep drunk?" Fred exclaimed.

"Well, now, that was the *effect*, but I can't swear it was the alcohol. Not unless Fweep can use the stuff on the molecular level if he wants. On the other hand, maybe it was the minerals in there that affected him. Little world like Fweepland, maybe it

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lacked a few things when it was made. But the way I looked at it, it stood to reason the little fellow could use a drink. Alone all these centuries, he must've got pretty dry. But whatever it was, he sure got high. Lost all control."

"Poor Fweep," Reba murmured.

"Poor nothing," Grampa said. "He was the happiest little critter I ever saw. When Four explained to him just what we wanted, he went right to work on that bottle and—"

Gramp's door swung open once more. "Grampa! Grampa!" Four shouted. "Fweep! He—I mean—well, we've been calling him by the wrong pronoun. Look!"

Four came running out of the room. Behind him rolled a tiny raspberry sphere about the size of a marble. Occasionally it hopped in the air and said, "Fweep?" in a small, high voice.

Behind it rolled and hopped a second raspberry marble. "Fweep?" it said. Behind it came another and another until the cabin was full of them, rolling, bouncing, calling "Fweep?"

DAZEDLY, JUNIOR counted them. "One hundred and one, one hundred and two, one hundred and—"

"Oh, Junior," Reba said, hugging him excitedly. "Aren't they cute?"

"What happened?" Grampa

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asked, as dazed as Junior.

"Maybe it was the tonic," Four said, "but I suspect it was the the unpolarized gravity. All of a sudden, Fweep started splitting like an ameba, over and over. Do you suppose that was what made him nervous?"

"That's the way the little fellow reproduces, all right," said Grampa. "I wonder if he has to wait until a race becomes civilized enough to discover the polarizer, eh?"

"Ugh!" gasped Joyce, brushing a Fweep out of her lap.

Grampa looked at the cabin and its occupants happily.

"I'd like to remind you," Fred said gravely, "that this multiplies our problem of what to do with Fweep over one hundred times."

"What problem?" asked Grampa. "The only problem we got is how we're gonna spend the cash. We're in business — the gravity business. We'll call it Gravity, Incorporated, and we can reclaim every little hunk of rock in the Solar System. Each one of those little fellows is worth a fortune! We'll give the satellites and the asteroids Earth-normal gravities and atmospheres and, by golly, we're rich!"

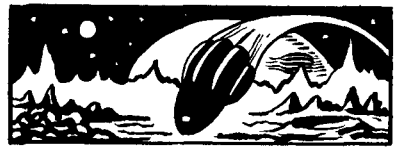
"Rich?" Joyce echoed. A smile slowly replaced the expression of distaste. She snapped her fingers. "Here, Fweepie," she said in her most enticing tone. "Here, little darlings! Come to dear Joyce!"

But they had all hopped to Four and were clustered around him like a raspberry bubble bath. Through them, his face peered, thin and happy.

Grampa looked at Reba. She was hugging Junior happily and smiling at Four. Grampa looked back at the boy.

"We'll have to be exclusive, though," Grampa said. "Considering the Fweeps' likes and dislikes, that is. We'll sell only to people with children."

—JAMES E. GUNN



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The Body

By ROBERT SHECKLEY

They made it — no question of that — but what had they made?

WHEN PROFESSOR Meyer opened his eyes he saw, leaning anxiously over him, three of the young specialists who had performed the operation. It struck him at once that they would have to be young to attempt what they had attempted; young and irreverent, possessed of encyclopedic technical knowledge to the exclusion of all else; iron-nerved, steel-fingered, inhuman, in fact. They had the qualifications of automatons.

He was so struck by this bit of post-anesthetic reasoning that it took him a moment to realize that the operation had been a success.

"How do you feel, sir?"

"Are you all right?"

"Can you speak, sir? If not, just nod your head. Or blink."

They watched anxiously.

Professor Meyer gulped, testing the limitations of his new palate, tongue and throat. Then he said, very thickly, "I think — I think — "

"He's all right!" Cassidy shouted. "Feldman! Wake up!"

Illustrated by WEISS

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Feldman leaped up from the spare cot and fumbled for his glasses. "He's up so soon? Did he speak?"

"Yes, he spoke! He spoke like an angel! We finally made it, Freddie!"

Feldman found his glasses and rushed to the operating table. "Could you say something else, sir? Anything?"

"I am — I am — "

"Oh, God," Feldman said. "I think I'm going to faint."

The three men burst into laughter. They surrounded Feldman and slapped him on the back. Feldman began to laugh, too, but soon he was coughing violently.

"Where's Kent?" Cassidy shouted. "He should be here, damn it. He kept that damned ossilyscope on the line for ten solid hours. Steadiest thing I ever saw. Where the devil is he?"

"He went after sandwiches," Lupowicz said. "Here he comes. Kent, Kent, we made it!"

Kent came through the door carrying two paper bags, with half a sandwich thrust in his mouth. He swallowed convulsively. "Did he speak? What did he say?"

BEHIND KENT, there was an uproar. A dozen men rushed toward the door.

"Get them out of here!" Feldman screamed. "They can't interview him tonight. Where's that cop?"

A policeman pushed his way through and blocked the door. "You heard what the docs said, boys."

"This isn't fair. This Meyer, he belongs to the world."

"What were his first words?"

"What did he say?"

"Did you really change him into a dog?"

"What kind of dog?"

"Can he wag his tail?"

"He said he was fine," the policeman told them, blocking the door. "Come on now, boys."

A photographer ducked under the policeman's arm. He looked at Professor Meyer on the operating table and muttered, "Jesus!" He raised his camera. "Look up, boy — "

Kent put his hand over the lens as the flashgun popped.

"Whatdja do that for?" the photographer asked.

"You now have a picture of Kent's hand," Kent said with sarcasm. "Enlarge it, and hang it in the Museum of Modern Art. Now, get out of here before I break your neck."

"Come on, boys," the policeman repeated sternly, herding the newsmen away. He turned back and glanced at Professor Meyer on the operating table. "Jesus! I still can't believe it!" he muttered, and closed the door.

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"The bottles!" Cassidy shouted. "A celebration!"

"By God, we deserve a celebration!"

Professor Meyer smiled — internally only, of course, since his facial expressions were now limited.

Feldman came up to him. "How do you feel, sir?"

"I am fine," Meyer said, enunciating carefully with his strange palate. "A little confused, perhaps — "

"But not regretful?" Feldman asked.

"I don't know yet," Meyer said. "I was against this on principle, you know. No man is indispensable."

"*You* are, sir." Feldman spoke with fierce conviction. "I followed your lectures. Not that I pretend to understand one tenth of what you were saying. Mathematical symbolism is only a hobby with me. But those unification principles — "

"Please," Meyer said.

"NO, LET me speak, sir," Feldman said. "You are carrying on the great work where Einstein and the others left off. No one else can complete it! No one! You had to have a few more years, in any form science could give you. I only wish we could have found a more suitable receptacle for your intellect. A human host was unavailable, and we were forced to rule out the primates — "

"It doesn't matter," Meyer said. "It's the intellect that counts, after all. I'm still a little dizzy . . ."

"I remember your last lecture at Harvard," Feldman continued, clenching his hands together. "You were so old, sir! I could have cried — that tired, ruined body — "

"Can we give you a drink, sir?" Cassidy offered Meyer a glass.

Meyer laughed. "I'm afraid my new facial configuration is not suited for glasses. A bowl would be preferable."

"Right!" Cassidy said. "One bowl coming up! Lord, Lord . . ."

"You'll have to excuse us, sir," Feldman apologized. "The strain has been terrific. We've been in this room for over a week, and I doubt if one of us had eight hours sleep in that time. We almost lost you, sir — "

"The bowl! The flowing bowl is here!" Lupowicz called. "What'll it be, sir? Rye? Gin?"

"Just water, please," Meyer said. "Do you think I could get up?"

"If you'll take it easy . . ." Lupowicz lifted him gently from the table and set him on the floor. Meyer balanced uneasily on his four legs.

The men cheered him wildly. "Bravo!"

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"I believe I may be able to do some work tomorrow," Meyer said. "Some sort of an apparatus will have to be devised to enable me to write. It shouldn't be too difficult. There will be other problems attendant upon my change I'm not thinking too clearly as yet . . ."

"Don't try to rush things."

"Hell, no! Can't lose you now!"

"What a paper this is going to make!"

"Collaborative effort, do you think, or each from his own viewpoint and specialty?"

"Both, both. They'll never get enough of this. Goddamn it, they'll be talking about this—"

"Where is the bathroom?" Meyer asked.

The men looked at each other.

"What for?"

"Shut up, you idiot. This way, sir. I'll open the door for you."

MEYER FOLLOWED at the man's heels, perceiving, as he walked, the greater ease inherent in four-legged locomotion. When he returned, the men were talking heatedly about technical aspects of his case.

"—never again in a million years."

"I can't agree with you. Anything we can do once—"

"Don't get scientific on us, kid. You know damned well it was a weird combination of fortuitous factors — plain blind luck!"

"You can say that again. Some of those bio-electric changes—"

"He's back."

"Yeah, but he shouldn't be walking around too much. How you feeling, boy?"

"I'm not a boy," Professor Meyer snapped. "I'm old enough to be your grandfather."

"Sorry, sir. I think you should go to bed, sir."

"Yes," Professor Meyer said. "I'm not too strong yet, not too clear . . ."

Kent lifted him and placed him on the cot. "There, how's that?"

They gathered around him, their arms linked around each other's shoulders. They were grinning, and very proud of themselves.

"Anything we can get you?"

"Just call for it, we'll bring it."

"Here, I've filled your bowl with water."

"We'll leave a couple sandwiches by your cot."

"Have a good rest," Cassidy said tenderly.

Then, involuntarily, absentmindedly, he patted Professor Meyer on his long, smooth-furred head.

Feldman shouted something incoherent.

"I forgot," Cassidy said in embarrassed apology.

"We'll have to watch ourselves. He's a *man*, you know."

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"Of course I know. I must be tired . . . I mean, he *looks* so much like a dog, you kinda forget — "

"Get out of here!" Feldman ordered. "Get out! All of you!"

He pushed them out of the room and hurried back to Professor Meyer.

"Is there anything I can do, sir? Anything at all?"

Meyer tried to speak, to reaffirm his humanity. But the words came out choked.

"It'll never happen again, sir. I'm sure of it. Why, you're — you're Professor Meyer!"

Quickly Feldman pulled a blanket over Meyer's shivering body.

"It's all right, sir," Feldman said, trying not to look at the shivering animal. "It's the intellect that counts, sir. The mind!"

"Of course," agreed Professor Meyer, the eminent mathematician. "But I wonder — would you mind patting my head for me, please?"

— ROBERT SHECKLEY

FORECAST

Next month brings a sweat-provoking novella right in the middle of winter — BODYGUARD by Christopher Grimm. But we can promise that it will be a cold sweat and you can look forward to some achingly taut muscles even after you finish the story. Why such tension? Well, put yourself in this alarming predicament:

When overwhelming danger is constantly present, of course a man is entitled to have a bodyguard. But what if he has to do the job himself . . . and his body absolutely will not cooperate?

After much too long an absence, Arthur Sellings returns with THE CATEGORY INVENTORS, a novelet worth waiting for. Writers have persistently poked holes in Utopias of all sorts, overlooking the fact that nothing could be better suited for those who like security. And security there is a-plenty in this well-run world. The only trouble is, how about those who want to get ahead? What happens to ambitious people in this story could never happen to a robot!

You'll find at least another novelet and all the short stories we can cram into the issue . . . plus an eyebrow-raising tour of THE OTHER SIDE OF THE MOON guided by Willy Ley. So you think it's a complete enigma, eh? You'll be astonished to discover just how much of it is nothing of the kind!

The big news of the year, of course, is that GALAXY now reaches the newsstands so much earlier than before. In case there is still some confusion about whatever became of the December issue, here is the data: To advance the date of sale, we were forced, in effect, to combine the December and January issues . . . but the volume and number follow the November issue consecutively, so we haven't skippd any issue at all. You'll get the full 12 of them this year, same as always.

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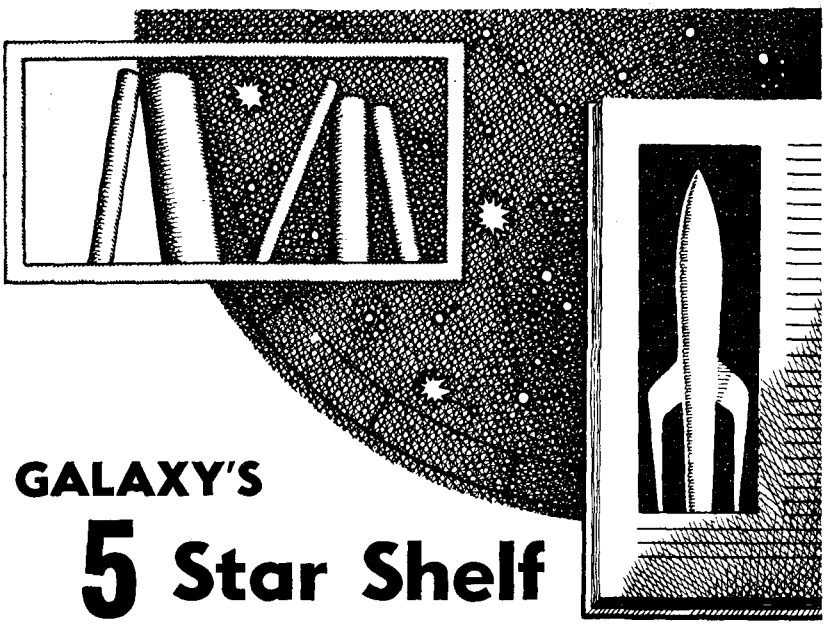

GALAXY'S 5 Star Shelf

SALAMANDERS & OTHER WONDERS by Willy Ley. The Viking Press, $3.95

AT this writing, the proposed space satellite has burst across all the front pages. Our Willy Ley, as one of the foremost experts of the day, has become as familiar to TV audiences as Howdy Doody. Therefore, it seems peculiar to be reviewing his nature book at this time. About the only connection between this and his sudden general fame is that he is busily engaged in unearthing the truth about Old Wives' Tales such as the "Man-Eating Tree."

For a factual book, it has a delightful touch of the detective story about it, due to the author's knack of presenting successive data so that it has the flavor of an exciting chase. I'm sure you'll find a favorite of yours here . . . the Abominable Snowmen or the Tree of Death, perhaps. They're the ones I liked best.

OPERATION FUTURE, edited by Groff Conklin. Permabooks, 35c

AND the next item is this collection by our Groff Conklin. Seventeen shorts and two novel-

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ets, all for 35c—a whopping bargain indeed.

The novelets by Sturgeon and Chad Oliver are excellent, as are the shorts by Winston K. Marks, Jack Finney and Damon Knight. The rest are mostly very good to good . . . only one poor rating.

All in all, a fine job of selection by "the world's top editor of science-fiction anthologies," to quote the blurb on the cover.

INSIDE THE SPACE SHIPS by George Adamski. Abelard-Schuman, Inc., $3.50

ACCORDING to the author of this sequel to *Flying Saucers Have Landed,* the Flying Saucers have returned and this time he has had the good fortune to be taken for several rides, both in the Saucers themselves and in their mother ships. Adamski avers that the Saucers are not interplanetary craft but comparable to dinghies, strictly ship-to-shore.

He accompanies the text with a number of pictures of both types of craft, including a series which he claims represents himself and a Venusian snapped at the portholes of a small mother ship by the pilot of a Saucer.

The reader will have to decide for himself as to the veracity of the book. But I believe that no one can find fault with the plea for peace and sanity throughout its pages.

THE TRANSPOSED MAN by Dwight V. Swain and ONE IN THREE HUNDRED by J. T. McIntosh. Ace Books, Inc., 35c

WALK into any bookstore and see what an imposing array the Double Novels have become. This month we have two new issues. The first has the excellent *One In Three Hundred* by McIntosh, which first appeared as three separate novelets in *Fantasy & Science Fiction* and last year in hard covers. It brings to mind Wylie and Balmer's old *When Worlds Collide.*

Having reread the latter quite recently, it was a revelation to see how modern s-f stacks up against a true classic. Here is almost identical subject matter and plot. The difference lies in the manner in which the modern craftsman succeeds in making his reader live the story.

The Transposed Man fills the balance of the book by eliminating blank pages. If you must know, it concerns a fanatic Society, the Mechanists, trying to overthrow the bumbling democratic government, and the part played by the Hero, a misguided shnook. He's a spy who keeps getting under everybody's skin . . . but only to plant an identity-

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transferring device. The author deserves a medal for finishing the book. So does the reader.

NO WORLD OF THEIR OWN by Poul Anderson & THE 1000 YEAR PLAN by Isaac Asimov. Ace Books Inc., 35c

THIS is the second Double novel entry. The Asimov, of course, is the first few chapters of his famous "Foundation" series, up to and including "The Traders." Even after a decade, it is still a refreshing experience to read about Hari Seldon and his Psychohistory, the charting of future history by means of deductive Mass Psychology. It has a sweep and tongue-in-cheek craftiness worthy of a modern Arabian Nights. Guaranteed to make you feel ten years younger.

No World of their Own is an original, but not very. It uses the device of hyperspace travel to dump the hero into an irrevocable future 5,000 years from his own, along with his two crewmates and a creature from 2,000 light-years distant that has the faculty of influencing electron flow in any apparatus.

Since Earth is ruled by the Servants of Technon, a super-duper-computer, and threatened by the League of Alpha Centauri and menaced by the Commercial Society, you can soon see why the poor hero all but mumbles, "Lemme alone, willya?" That's 50% on two books. Mmm, somebody should get together with himself.

NOT THIS AUGUST by C. M. Kornbluth. Doubleday & Co., Inc., $2.95

LIKE last month's *Point Ultimate* by Jerry Sohl, this book deals with a Communist invasion of the U.S.A. But whereas the former commences thirty years after the invasion, this opus takes us through the final defeat. Also, it is a blunt, hard-bitten account of the brutalization the American populace is subjected to in order to learn their new role, that of peasant. It is believable throughout and thoroughly frightening.

Basically, the plots of the two books are virtually identical, but Kornbluth's has an authenticity comparable to the better war novels of the past decade.

Incidentally, you don't know with what restraint this appreciative review was written. The most obnoxious character in the book is named Floyd C.

FAR AND AWAY by Anthony Boucher. Ballantine Books, 35c

THIS collection of short stories by the editor of *Fantasy & Science Fiction* is an event, but not a satisfactory one.

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The obvious explanation is that it's mostly a roster of youthful literary recruits from the old *Unknown* and *Astounding*, with some more recent eager wisps of volunteers, none of them able to stand up under the fire of modern competition.

Unfortunately, it's more than that. The themes are scholarly trivialities, pounced on with all the joy of a naturalist who has found an ancient skeleton — and they are just as meatless. The characters are composed of the effluvium of Latin tomes.

As editor, Boucher demands more of his writers. It's regrettable that he can't make the same demands on himself.

STAR GUARD by Andre Norton. Harcourt, Brace & Co., $3.00

IT'S remarkable how Miss Norton can take the standard ingredients of space opera on the grand scale and still manage to come up with a believably personal yarn.

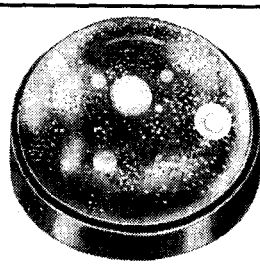
Like her fine *Star Man's Son*, this future adventure is viewed through the eyes of a youth, coming into manhood in a time when Earth is subject to Galactic Empire rule, deemed too barbarous to deal with other civilizations, fit only to export mercenaries.

A really good adventure.

VENUS BOY by Lee Sutton. Lothrop, Lee & Sheperd Co., Inc., $2.50

THIS month's juvenile is so exciting that my kids grabbed it and fought over the pieces. I didn't get a chance to read it until just now. As you can see, it has appeal. It also has lessons to teach, both moral and scientific. But it doesn't permit them to get in the way of the story, which concerns a boy and his pet, a native bear cub whose species' curse is that their claws become jewels at maturity. Plastics treated with this material acquire fantastic properties. Johnny's attempt to hide his pet's maturity and his acceptance as equal by the fauna of Venus make splendid reading for any kid my age.

— FLOYD C. GALE



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The Snare

By RICHARD R. SMITH

It's easy to find a solution when there is one—the trick is to do it if there is none!

I GLANCED AT the path we had made across the *Mare Serenitatis*. The Latin translated as "the Sea of Serenity." It was well named because, as far as the eye could see in every direction, there was a smooth layer of pumice that resembled the surface of a calm sea. Scattered across the quiet sea of virgin Moon dust were occasional islands of rock that jutted abruptly toward the infinity of stars above. Considering everything, our surroundings conveyed a sense of serenity like none I had ever felt.

Our bounding path across the level expanse was clearly marked. Because of the light gravity, we had leaped high into the air with each step and every time we struck the ground, the impact had raised a cloud of dustlike pumice. Now the clouds of dust were slowly settling in the light gravity.

Above us, the stars were cold, motionless and crystal-clear. Indifferently, they sprayed a faint

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light on our surroundings . . . a dim glow that was hardly sufficient for normal vision and was too weak to be reflected toward Earth.

We turned our head-lamps on the strange object before us. Five beams of light illuminated the smooth shape that protruded from the Moon's surface.

The incongruity was so awesome that for several minutes, we remained motionless and quiet. Miller broke the silence with his quavering voice, "Strange someone didn't notice it before."

STRANGE? THE object rose a quarter of a mile above us, a huge, curving hulk of smooth metal. It was featureless and yet conveyed a sense of *alienness*. It was alien and yet it wasn't a natural formation. Something had made the thing, whatever it was. But was it strange that it hadn't been noticed before? Men had lived on the Moon for over a year, but the Moon was vast and the *Mare Serenitatis* covered three hundred and forty thousand square miles.

"What is it?" Marie asked breathlessly.

Her husband grunted his bafflement. "Who knows? But see how it curves? If it's a perfect sphere, it must be at least two miles in diameter!"

"If it's a perfect sphere," Miller suggested, "most of it must be beneath the Moon's surface."

"Maybe it isn't a sphere," my wife said. "Maybe this is all of it."

"Let's call Lunar City and tell the authorities about it." I reached for the radio controls on my suit.

Kane grabbed my arm. "No. Let's find out whatever we can by ourselves. If we tell the authorities, they'll order us to leave it alone. If we discover something really important, we'll be famous!"

I lowered my arm. His outburst seemed faintly childish to me. And yet it carried a good measure of common sense. If we discovered proof of an alien race, we would indeed be famous. The more we discovered for ourselves, the more famous we'd be. Fame was practically a synonym for prestige and wealth.

"All right," I conceded.

Miller stepped forward, moving slowly in the bulk of his spacesuit. Deliberately, he removed a small torch from his side and pressed the brilliant flame against the metal.

A few minutes later, the elderly mineralogist gave his opinion: "It's steel . . . made thousands of years ago."

Someone gasped over the intercom, "Thousands of years! But wouldn't it be in worse shape than this if it was that old?"

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Miller pointed at the small cut his torch had made in the metal. The notch was only a quarter of an inch deep. "I say *steel* because it's *similar* to steel. Actually, it's a much stronger alloy. Besides that, on the Moon, there's been no water or atmosphere to rust it. Not even a wind to disturb its surface. It's *at least* several thousand years old."

WE SLOWLY circled the alien structure. Several minutes later, Kane shouted, "Look!"

A few feet above the ground, the structure's smooth surface was broken by a circular opening that yawned invitingly. Kane ran ahead and flashed his head-lamp into the dark recess.

"There's a small room inside," he told us, and climbed through the opening.

We waited outside and focused our lamps through the five-foot opening to give him as much light as possible.

"Come on in, Marie," he called to his wife. "This is really something! It *must* be an alien race. There's all kinds of weird drawings on the walls and gadgets that look like controls for something . . ."

Briefly, my lamp flickered over Marie's pale face. Her features struggled with two conflicting emotions: She was frightened by the alienness of the thing and yet she wanted to be with her husband. She hesitated momentarily, then climbed through the passage.

"You want to go in?" my wife asked.

"Do you?"

"Let's."

I helped Verana through the opening, climbed through myself and turned to help Miller.

Miller was sixty years old. He was an excellent mineralogist, alert mentally, but with a body that was almost feeble. I reached out to help him as he stepped into the passageway.

For a brief second, he was framed in the opening, a dark silhouette against the star-studded sky.

The next second, he was thrown twenty yards into the air. He gasped with pain when he struck the ground. *"Something* pushed me!"

"Are you all right?"

"Yes."

He had fallen on a spot beyond our angle of vision. I started through the passage . . .

. . . and struck an invisible solid wall.

MY EYES were on the circular opening. A metal panel emerged from a recess on one side and slid across the passage. The room darkened with the absence of starlight.

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"What happened?"

"The door to this damned place closed," I explained.

"What?"

Before we could recover from the shock, the room filled with a brilliant glare. We turned off our lamps.

The room was approximately twelve feet long and nine feet wide. The ceiling was only a few inches above our heads and when I looked at the smooth, hard metal, I felt as if I were trapped in some alien vault.

The walls of the room were covered with strange drawings and instruments. Here and there, kaleidoscopic lights pulsed rhythmically.

Kane brushed past me and beat his gloved fists against the metal door that had imprisoned us.

"Miller!"

"Yes?"

"See if you can get this thing open from the outside."

I knelt before the door and explored its surface with my fingers. There were no visible recesses or controls.

Over the intercom network, everyone's breath mingled and formed a rough, harsh sound. I could discern the women's quick, frightened breaths that were almost sobs. Kane's breath was deep and strong; Miller's was faltering and weak.

"Miller, get help!"

"I'll —" The sound of his breathing ceased. We listened intently.

"What happened to him?"

"I'll phone Lunar City." My fingers fumbled at the radio controls and trembled beneath the thick gloves.

I turned the dials that would connect my radio with Lunar City . . .

Static grated against my ear drums.

Static!

I LISTENED TO the harsh, erratic sound and my voice was weak by comparison: "Calling Lunar City."

"Static!" Kane echoed my thoughts. His frown made deep clefts between his eyebrows. "There's no static between interlunar radio!"

Verana's voice was small and frightened. "That sounds like the static we hear over the bigger radios when we broadcast to Earth."

"It does," Marie agreed.

"But we wouldn't have that kind of static over *our* radio, unless —" Verana's eyes widened until the pupils were surrounded by circles of white — "unless we were in outer space!"

We stared at the metal door that had imprisoned us, afraid even to speak of our fantastic suspicion.

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I deactivated my radio.

Marie screamed as an inner door opened to disclose a long, narrow corridor beyond.

Simultaneous with the opening of the second door, I felt air press against my spacesuit. Before, our suits had been puffed outward by the pressure of air inside. Now our spacesuits were slack and dangling on our bodies.

We looked at each other and then at the inviting corridor beyond the open door.

We went single file, first Kane, then his wife Marie. Verana followed next and I was the last.

We walked slowly, examining the strange construction. The walls were featureless but still seemed alien. At various places on the walls were the outlines of doors without handles or locks.

Kane pressed his shoulder against a door and shoved. The door was unyielding.

I manipulated the air-vent controls of my spacesuit, allowed a small amount of the corridor's air into my helmet and inhaled cautiously. It smelled all right. I waited and nothing happened. Gradually, I increased the intake, turned off the oxygenating machines and removed my helmet.

"Shut off your oxy," I suggested. "We might as well breathe the air in this place and save our supply. We may need the oxygen in our suits later."

They saw that I had removed my helmet and was still alive and one by one removed their own helmets.

AT THE END of the corridor, Kane stopped before a blank wall. The sweat on his face glistened dully; his chest rose and fell rapidly. Kane was a pilot and one of the prerequisites for the job of guiding tons of metal between Earth and the Moon was a good set of nerves. Kane excited easily, his temper was firy, but his nerves were like steel.

"The end of the line," he grunted.

As though to disprove the statement, a door on his right side opened soundlessly.

He went through the doorway as if shoved violently by an invisible hand.

The door closed behind him.

Marie threw herself at the door and beat at the metal. "Harry!"

Verana rushed to her side. Another door on the opposite side of the corridor opened silently. The door was behind them; they didn't notice.

Before I could warn them, Marie floated across the corridor, through the doorway.

Verana and I stared at the darkness beyond the opening, our muscles frozen by shock.

The door closed behind Marie's

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screaming, struggling form.

Verana's face was white with fear. Apprehensively, she glanced at the other doors that lined the hall.

I put my arms around her, held her close.

"Antigravity machines, force rays," I suggested worriedly.

For several minutes, we remained motionless and silent. I recalled the preceding events of the day, searched for a sense of normality in them. The Kanes, Miller, Verana and I lived in Lunar City with hundreds of other people. Mankind had inhabited the Moon for over a year. Means of recreation were scarce. Many people explored the place to amuse themselves. After supper, we had decided to take a walk. As simple as that: a walk on the Moon.

We had expected only the familiar craters, chasms and weird rock formations. A twist of fate and here we were: imprisoned in an alien ship.

My legs quivered with fatigue, my heart throbbed heavily, Verana's perfume dizzied me. No, it wasn't a dream. Despite our incredible situation, there was no sensation of unreality.

I TOOK VERANA'S hand and led her down the long corridor, retracing our steps.

We had walked not more than two yards when the rest of the doors opened soundlessly.

Verana's hand flew to her mouth to stifle a gasp.

Six doors were now open. The only two that remained closed were the ones that the Kanes had unwillingly entered.

This time, no invisible hand thrust us into any of the rooms.

I entered the nearest one. Verana followed hesitantly.

The walls of the large room were lined with shelves containing thousands of variously colored boxes and bottles. A table and four chairs were located in the center of the green, plasticlike floor. Each chair had no back, only a curving platform with a single supporting column.

"Ed!" I joined Verana on the other side of the room. She pointed a trembling finger at some crude drawings. "The things in this room are food!"

The drawings were so simple that anyone could have understood them. The first drawing portrayed a naked man and woman removing boxes and bottles from the shelves. The second picture showed the couple opening the containers. The third showed the man eating from one of the boxes and the woman drinking from a bottle.

"Let's see how it tastes," I said.

I selected an orange-colored

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box. The lid dissolved at the touch of my fingers.

The only contents were small cubes of a soft orange substance.

I tasted a small piece.

"Chocolate! Just like chocolate!"

Verana chose a nearby bottle and drank some of the bluish liquid.

"Milk!" she exclaimed.

"Perhaps we'd better look at the other rooms," I told her.

THE NEXT room we examined was obviously for recreation. Containers were filled with dozens of strange games and books of instructions in the form of simple drawings. The games were foreign, but designed in such a fashion that they would be interesting to Earthmen.

Two of the rooms were sleeping quarters. The floors were covered with a spongy substance and the lights were dim and soothing.

Another room contained a small bathing pool, running water, waste-disposal units and yellow cakes of soap.

The last room was an observatory. The ceiling and an entire wall were transparent. Outside, the stars shone clearly for a few seconds, then disappeared for an equal time, only to reappear in a different position.

"Hyper-space drive," Verana whispered softly. She was fascinated by the movement of the stars. For years, our scientists had sought a hyperspatial drive to conquer the stars.

We selected a comfortable chair facing the transparent wall, lit cigarettes and waited.

A few minutes later, Marie entered the room.

I noticed with some surprise that her face was calm. If she was excited, her actions didn't betray it.

She sat next to Verana.

"What happened?" my wife asked.

Marie crossed her legs and began in a rambling manner as if discussing a new recipe, "That was really a surprise, wasn't it? I was scared silly, at first. That room was dark and I didn't know what to expect. Something touched my head and I heard a telepathic voice —"

"Telepathic?" Verana interrupted.

"Yes. Well, this voice said not to worry and that it wasn't going to hurt me. It said it only wanted to learn something about us. It was the *oddest* feeling! All the time, this voice kept talking to me in a nice way and made me feel at ease . . . and at the same time, I felt *something* search my mind and gather information. I could actually *feel* it search my memories!"

"What memories?" I inquired.

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She frowned with concentration. "Memories of high school mostly. It seemed interested in English and history classes. And then it searched for memories of our customs and lives in general . . ."

KANE STALKED into the room at that moment, his face red with anger. *"Do you know where we are?"* he demanded. "When those damned aliens got me in that room, they explained what this is all about. We're guinea pigs!"

"Did they use telepathy to explain?" Verana asked. I suddenly remembered that she was a member of a club that investigated extra-sensory perception with the hope of learning how it operated. She was probably sorry she hadn't been contacted telepathically.

"Yeah," Kane replied. "I saw all sorts of mental pictures and they explained what they did to us. Those damned aliens want us for their zoo!"

"Start at the beginning," I suggested.

He flashed an angry glance at me, but seemed to calm somewhat. "This ship was made by a race from another galaxy. Thousands of years ago, they came to Earth in their spaceships when men were primitives living in caves. They wanted to know what our civilization would be like when we developed space flight. So they put this ship on the Moon as a sort of booby-trap. They put it there with the idea that when we made spaceships and went to the Moon, sooner or later, we'd find the ship and enter it — *like rabbits in a snare!*"

"And now the booby-trap is on its way home," I guessed.

"Yeah, this ship is taking us to their planet and they're going to keep us there while they study us."

"How long will the trip take?" I asked.

"Six months. We'll be bottled up in this crate for six whole damned months! And when we get there, we'll be prisoners!"

Marie's hypnotic spell was fading and once more her face showed the terror inside her.

"Don't feel so bad," I told Kane. "It could be worse. It should be interesting to see an alien race. We'll have our wives with us —"

"Maybe they'll dissect us!" Marie gasped.

Verana scoffed. "A race intelligent enough to build a ship like this? A race that was traveling between the stars when we were living in caves? Dissection is primitive. They won't *have to* dissect us in order to study us. They'll have more advanced methods."

"Maybe we can reach the ship's controls somehow," Kane said excitedly. "We've got to try

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to change the ship's course and get back to the Moon!"

"It's impossible. Don't waste your time." The voice had no visible source and seemed to fill the room.

VERANA SNAPPED her fingers. "So that's why the aliens read Marie's mind! They wanted to learn our language so they could talk to us!"

Kane whirled in a complete circle, glaring at each of the four walls. "Where are you? *Who* are you?"

"I'm located in a part of the ship you can't reach. I'm a machine."

"Is anyone else aboard besides ourselves?"

"No. I control the ship." Although the voice spoke without stilted phrases, the tone was cold and mechanical.

"What are your — your masters going to do wiith us?" Marie asked anxiously.

"You won't be harmed. My masters merely wish to question and examine you. Thousands of years ago, they wondered what your race would be like when it developed to the space-flight stage. Thy left this ship on your Moon only because they were curious. My masters have no animosity toward your race, only compassion and curiosity."

I remembered the way anti-gravity rays had shoved Miller from the ship and asked the machine, "Why didn't you let our fifth member board the ship?"

"The trip to my makers' planet will take six months. There are food, oxygen and living facilities for four only of your race. I had to prevent the fifth from entering the ship."

"Come on," Kane ordered. "We'll search this ship room by room and we'll find some way to make it take us back to Earth."

"It's useless," the ship warned us.

For five hours, we minutely examined every room. We had no tools to force our way through solid metal walls to the engine or control rooms. The only things in the ship that could be lifted and carried about were the containers of food and alien games. None were sufficiently heavy or hard enough to put even a scratch in the heavy metal.

SIX ROOMS were open to our use. The two rooms in which the Kanes had been imprisoned were locked and there were no controls or locks to work on.

The rooms that we could enter were without doors, except the ones that opened into the corridor.

After intensive searching, we realized there was *no way* to damage the ship or reach any sec-

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tion other than our alloted space.

We gave up.

The women went to the sleeping compartments to rest and Kane I went to the "kitchen."

At random, we sampled the variously colored boxes and bottles and discussed our predicament.

"Trapped," Kane said angrily. "Trapped in a steel prison." He slammed his fist against the table top. "But there must be a way to get out! Every problem has a solution!"

"You sure?" I asked.

"What?"

"*Does* every problem have a solution? I don't believe it. Some problems are too great. Take the problem of a murderer in our civilization: John Doe has killed someone and his problem is to escape. Primarily, a murderer's problem is the same principle as ours. A murderer has to outwit an entire civilization. We have to outwit an entire civilization that was hundreds of times more advanced than ours is now when we were clubbing animals and eating the meat raw. Damned few criminals get away these days, even though they've got such crowds to lose themselves in. All we have is a ship that we can't control. I don't think we have a chance."

My resignation annoyed him. Each of us had reacted differently: Kane's wife was frightened, Verana was calm because of an inner serenity that few people have, I was resigned and Kane was angry.

FOR SEVERAL minutes, we sampled the different foods. Every one had a distinctive flavor, comparable to that of a fruit or vegetable on Earth.

Kane lifted a brown bottle to his lips, took a huge gulp and almost choked.

"Whiskey!"

"My masters realized your race would develop intoxicants and tried to create a comparable one," the machine explained.

I selected a brown bottle and sampled the liquid. "A little stronger than our own," I informed the machine.

We drank until Kane was staggering about the room, shouting insults at the alien race and the mechanical voice that seemed to be everywhere. He beat his fist against a wall until blood trickled from bruised knuckles.

"Please don't hurt yourself," the machine pleaded.

"*Why?*" Kane screamed at the ceiling. "Why should you care?"

"My masters will be displeased with me if you arrive in a damaged condition."

Kane banged his head against a bulkhead; an ugly bruise formed rapidly. "Shtop me, then!"

"I can't. My masters created no way for me to restrain or contact

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you other than use of your language."

It took fully fifteen minutes to drag Kane to his sleeping compartment.

After I left Kane in his wife's care, I went to the adjoining room and stretched out on the soft floor beside Verana.

I tried to think of some solution. We were locked in an alien ship at the start of a six months' journey to a strange planet. We had no tools or weapons.

Solution? I doubted if two dozen geniuses working steadily for years could think of one!

I wondered what the alien race was like. Intelligent, surely: They had foreseen our conquest of space flight when we hadn't even invented the wheel. That thought awed me — somehow they had analyzed our brains thousands of years ago and calculated what our future accomplishments would be.

They had been able to predict our scientific development, but they hadn't been able to tell how our civilization would develop. They were curious, so they had left an enormously elaborate piece of bait on the Moon.

The aliens were incredibly more advanced than ourselves. I couldn't help thinking, *And to a rabbit in a snare, mankind must seem impossibly clever.*

I decided to ask the machine about its makers in the "morning."

WHEN I awoke, my head was throbbing painfully.

I opened my eyes and blinked several times to make sure they were functioning properly. I wasn't in the compartment where I had fallen asleep a few hours before.

I was tied to one of the chairs in the "kitchen." Beside me, Verana was bound to a chair by strips of cloth from her skirt, and across from us, Marie was secured to another chair.

Kane staggered into the room. Although he was visibly drunk, he appeared more sober than the night before. His dark hair was rumpled and his face was flushed, but his eyes gleamed with a growing alertness.

"Awake, huh?"

"What have you done, Harry?" his wife screamed at him. Her eyes were red with tears and her lips twisted in an expression of shame when she looked at him.

"Obvious, isn't it? While all of you were asleep, I conked each of you on the head, dragged you in here and tied you up." He smiled crookedly. "It's amazing the things a person can do when he's pickled. I'm sorry I had to be so rough, but I have a plan and I knew you wouldn't agree or cooperate with me."

"What's your plan?" I asked.

He grinned wryly and crinkled bloodshot eyes. "I don't want to

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live in a zoo on an alien planet. I want to go home and prove my theory that this problem has a solution."

I grunted my disgust.

"The solution is simple," he said. "We're in a trap so strong that the aliens didn't establish any means to control our actions. When men put a lion in a strong cage, they don't worry about controlling the lion because the lion can't get out. We're in the same basic situation."

"So what?" Verana queried in a sarcastic tone.

"The aliens want us transported to their planet so they can examine and question us. Right?"

"Right."

"Ed, remember that remark the machine made last night?"

"What remark?"

"It said, '*My* masters will be displeased with *me* if you arrive in a damaged condition.' What does that indicate to you?"

I ASSUMED A baffled expression. I didn't have the slightest idea of what he was driving at and I told him so.

"Ed," he said, "if you could build an electronic brain capable of making decisions, how would you build it?"

"Hell, I don't know," I confessed.

"Well, if I could build an electronic brain like the one running this ship, I'd build it with a *conscience* so it'd do its best at all times."

"Machines always do their best," I argued. "Come on, untie us. I'm getting a crick in my back!" I didn't like the idea of being slugged while asleep. If Kane had been sober and if his wife hadn't been present, I would have let him know exactly what I thought of him.

"*Our* machines always do their best," he argued, "because we punch buttons and they respond in predetermined patterns. But the electronic brain in this ship isn't automatic. It makes decisions and I'll bet it even has to decide how much energy and time to put into each process!"

"So what?"

He shrugged muscular shoulders. "So this ship is operated by a thinking, conscientious machine. It's the first time I've encountered such a machine, but I think I know what will happen. I spent hours last night figuring —"

"What are you talking about?" I interrupted. "Are you so drunk that you don't know —"

"I'll show you, Ed."

He walked around the table and stood behind my chair. I felt his thick fingers around my throat and smelled the alcohol on his breath.

"Can you see me, machine?" he asked the empty air.

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"Yes," the electronic brain replied.

"Watch!"

Kane tightened his fingers around my throat.

Verana and Marie screamed shrilly.

My head seemed to swell like a balloon; my throat gurgled painfully.

"Please stop," the machine pleaded.

"What will your masters think of you if I kill all of us? You'll return to them with a cargo of dead people!"

THE MACHINE didn't answer. I waited for the electronic brain to interfere and, with a cold knot in my stomach, realized the machine had said it had no way to control our actions!

"Your purpose won't be fulfilled, will it?" Kane demanded. "Not if you return with dead specimens!"

"No," the machine admitted.

"If you don't take us back to the Moon," Kane threatened, "I'll kill *all of us!*"

The alien electronic brain was silent.

By this time, I couldn't see and Kane's voice was a hollow, faraway thing that rang in my ears. I tugged at my bindings, but they only tightened as I struggled.

"If you take us back to the Moon, your masters will never know you failed in your mission. They won't know you failed because you won't bring them proof of your failure."

My fading consciousness tried to envision the alien mechanical brain as it struggled with the problem.

"Look at it this way," Kane persisted. "If you carry our corpses to your masters, all your efforts will have been useless. If you return us to the Moon alive, you'll still have a chance to carry out your mission later."

A long silence followed. Verana and Marie screamed at Kane to let go. A soft darkness seemed to fill the room, blurring everything, drowning even their shrieks in strangling blackness.

"You win," the machine conceded. "I'll return the ship to the Moon."

Kane released his grip on my throat.

"See?" he asked. "Didn't I tell you every problem has a solution?"

I didn't answer. I was too busy enjoying breathing again.

— RICHARD R. SMITH

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Illustrated by EMSH

The Ties of Earth

Conclusion of a 2-Part Serial

By JAMES H. SCHMITZ

You bet Commager had a problem! He could smash the conspiracy and not escape alive . . . or capitulate to it and lose his mind!

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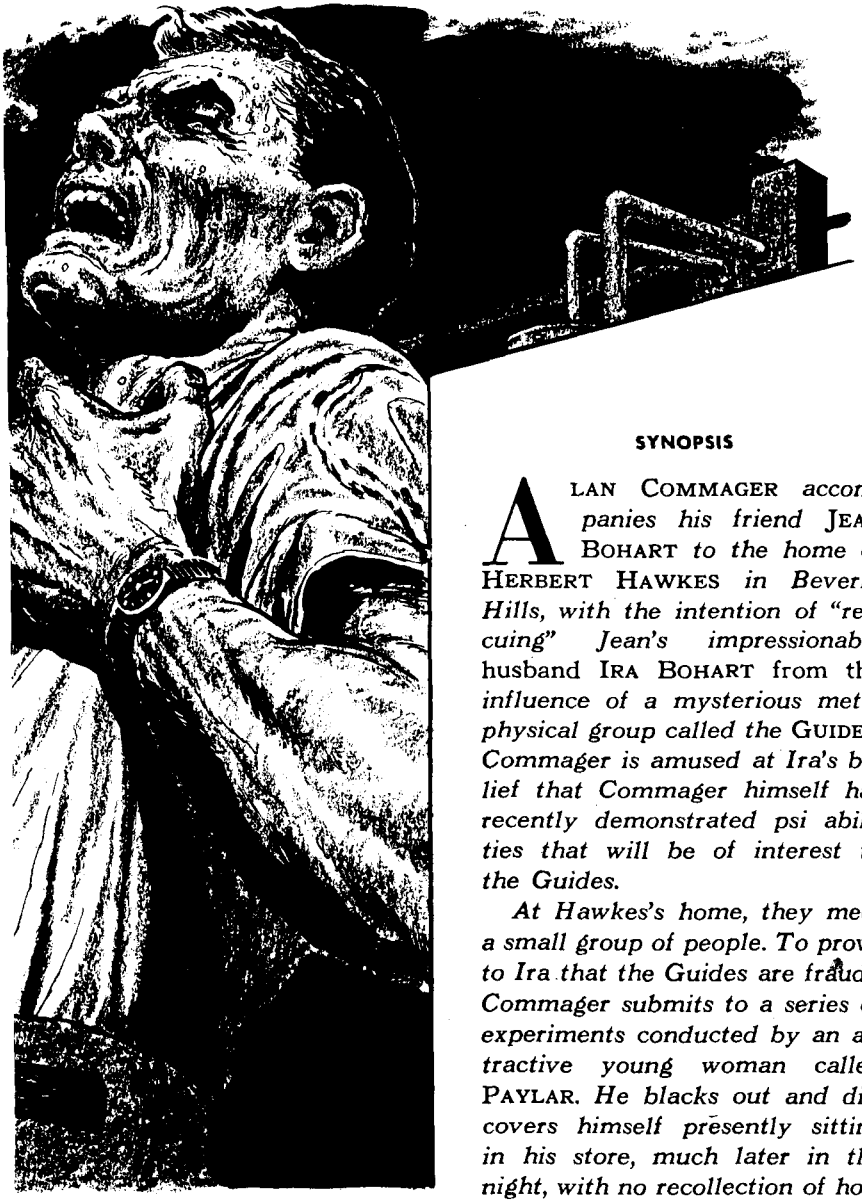

SYNOPSIS

ALAN COMMAGER *accompanies his friend* JEAN BOHART *to the home of* HERBERT HAWKES *in Beverly Hills, with the intention of "rescuing" Jean's impressionable* husband IRA BOHART from the *influence of a mysterious metaphysical group called the* GUIDES. *Commager is amused at Ira's belief that Commager himself has recently demonstrated psi abilities that will be of interest to the Guides.*

At Hawkes's home, they meet a small group of people. To prove to Ira that the Guides are frauds, Commager submits to a series of experiments conducted by an attractive young woman called PAYLAR. *He blacks out and discovers himself presently sitting in his store, much later in the night, with no recollection of how he got there. Also in the store*

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is the dead body of RUTH MACDONALD *whom he had met at Hawkes's home. Commager decides the Guides are out to frame him for interfering in their business with Ira. He leaves Ruth's body in the garden back of Hawkes's house.*

Early next morning, Commager learns through a phone call from Jean Bohart that the Boharts are unaware of anything unusual having occurred during the experiments the night before, but that they left the party before he did. Unable to be really certain that he didn't kill Ruth MacDonald during the period of amnesia, Commager calls on DR. HENRY L. WARBUTT, *his one-time guardian and psychologist. Warbutt tells him that among the local fringe groups the Guides are reputed to have genuine metaphysical powers and that they are probably a good group to avoid.*

Commager calls next on another friend, a professional hypnotist, JULIUS SAVAGE. *He relives a period of his life, four years back, when he became interested in the psi experiments of his wife,* LONA, *who was killed shortly afterward in an automobile crash. Julius startles him by telling him that he never had a wife and that his memories of her are a delusion.*

Paylar meets him that night and explains that the Guides are an organization devoted to preventing the development of parapsychological abilities in human beings. Commager, she says, is in the process of developing such abilities to a dangerous extent. The Guides will use all available means to "stop" him. Commager is skeptical, but is badly jolted again when he notices that the driver of Paylar's car is Ruth MacDonald, now very much alive again. In spite of Paylar's warning, he has no intention of joining the Guides.

The following morning, Commager receives a call from a MRS. ELAINE LOVELOCK, *an assistant of* DR. WILSON KNOX, *who was present at the meeting at Hawkes's house and who is the head of a local pseudo-religious cult. Dr. Knox has had a heart attack during the night and pleads for Commager's help. Commager goes to see Knox who tells him the heart attack is a punishment for having resisted Ruth MacDonald's attempt to assume control of his cult and that the Guides will kill him unless Commager grants him his "protection." Commager, according to Knox, has abilities of which the Guides are afraid.*

Commager decides to humor Knox to the extent of phoning Paylar and telling her that Ruth is to leave Knox alone.

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A little later, Commager gets another message from Mrs. Lovelock: Dr. Knox has just died. Within half an hour, Commager finds himself suffering from something remarkably like a heart attack himself.

SOME thirty minutes later, the first hot jolt of pain drove down from the center of Commager's throat to a point under the end of his breast-bone.

If it hadn't been so damned pat, he thought, he might have yelled for a doctor. The sensations were thoroughly convincing.

There was a section at the back of the store devoted to the experimental breeding of fish that were priced high enough to make such domestic arrangements worthwhile and exceptionally delicate in their requirements for propagation. The section had a door that could be locked, to avoid disturbances. Commager went in and locked it.

In the swampy, hot-house atmosphere, he leaned against one of the tank racks, breathing carefully. The pain was still there, much less substantial than it had been in the first few moments, but still a vertical, hard cramping inside his chest. It had shocked him — it did yet — but he was not nearly so much alarmed as angry.

The anger raged against himself — he was doing this! The suggestion to do it might have been implanted, but the response wasn't an enemy from outside, a phantom tiger pressing cold, steely claws down through his chest. It was a self-generated thing that used his own muscles, his own nerves, his own brain —

It tightened suddenly again. Steel-hard, chilling pain, along with a bitter, black, strangling nausea in his throat. "I'm doing it!" he thought.

The clamping agony was part of himself; he had created it, structured it, was holding it there now.

AND SO HE relaxed it again. Not easily, because the other side of himself, the hidden, unaware, responsive side was being stubborn about this! It knew it was supposed to die now, and it did its determined best.

But degree by degree, he relaxed the cramping, the tightness, and then suddenly felt it dissolve completely.

Commager stood, his legs spread apart, swaying a little drunkenly. Sweat ran from his body. His head remained cocked to the right as if listening, sensing, while he breathed in long, harsh gasps that slowed gradually.

It was gone.

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And now, he thought, let's really test this thing! Let's produce it again.

That wasn't easy either, because he kept cringing in fear of its return.

But he produced it.

And, this time, it wasn't too hard to let it go, let it dissolve again.

He brought it up briefly once more, a single sharp stab — and washed it away.

And that, he thought, was enough of that kind of game. He'd proved his point!

He stripped off his shirt and hosed cold water over his head and shoulders and arms. He dabbed himself with a towel, put his wet shirt back on, combed his hair and went back to the office.

Sitting there, he thought of an old gag about a moronic wrestler who, practicing holds and grips all by himself, broke off his left foot and remarked admiringly, "Jeez, boss, nobody but me could have done that to me, huh?"

Which more or less covered what had happened. And now that he had made that quite clear, it seemed safe to wonder whether just possibly there mightn't have been some direct, immediate prompting from outside — something that told him to go ahead and break himself apart, just as the wrestler had done.

THOUGH there needn't have been anything as direct as a telepathic suggestion. It could also have been done, quite as purposefully, by inducing the disturbed leaders of the Temple of Antique Christianity to bring their plight to his attention. By letting him become thoroughly aware of the shadowy, superstitious possibilities in the situation, opening his mind to them and their implications — and then hammering the suggestion home with the simple, indisputable fact of Wilson Knox's death!

If someone was clever enough to know Alan Commager a little better than he'd known himself so far — and had motive enough not to mind killing somebody else in order to soften him up — it could have been done in just that way. And Paylar had told him openly that the motive existed.

Commager decided that that was how it had been done; though now he didn't mind considering the possibility of a telepathic suggestion either. They might try something else, but he was quite sure that the kind of trick they had tried — whichever way it had been done — wouldn't work at all another time. They needed his cooperation for that, and he wasn't giving them any.

And still, aside from the fact that Wilson Knox had been

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threatened, nothing at all had occurred openly.

The anger in him remained. He couldn't bring himself to feel really sorry for Knox, or for Elaine Lovelock either. They were destructive mental parasites who'd had the bad luck to run into what might be simply a more efficient parasite of the same breed. In spite of their protests, they hadn't been any less ruthless with the people they controlled.

He could recognize that. But the anger stayed with him, a smoldering and dangerous thing, a little ugly. Basically, Commager knew, he was still angry with himself. For reasons still unknown, he had developed an area of soft rot in his thoughts and emotions; and he was reasonably convinced that, without that much to start on, the proddings and nibblings of — parasites — couldn't have had any effect. To have reduced himself to the level of becoming vulnerable to them seemed an intolerably indecent failing, like a filthy disease.

But anger, however honestly directed where it belongs, wants to strike outward.

FOR A parasite or whatever else she might be, Paylar looked flatteringly beautiful in a sheath of silver and black — and he didn't get a significant word out of her all evening.

Commager hadn't tried to talk shop, but he had expected that she would. However, in that respect, it might have been simply another interesting, enjoyable but not too extraordinary night out.

In other respects, it wasn't. He didn't forget at any time that here was someone who probably shared the responsibility for what he was now rather certain had been a deliberate murder. In retrospect, her promise to tell Ruth MacDonald not to frighten Knox any more hadn't meant anything, since Knox by then had been as good as dead.

The odd thing — made much odder, of course, by the other probability that he himself had been the actual target of that killing — was that, as far as Paylar was concerned, he seemed unable to feel any convincing moral indignation about the event! It was puzzling enough so that, under and around their pleasant but unimportant conversation, he was mainly engaged in hunting for the cause of that lack of feeling.

Her physical attractiveness seemed involved in it somehow. Not as a justification for murder; he wasn't even so sure this evening that he liked Paylar physically. He felt the attraction, but there was also a trace of something not very far from revulsion

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in his involuntary response to it.

It wasn't too obvious; but she might have almost an excess of quiet vitality, a warmth and slender, soft earthiness that seemed almost more animal than human.

That thought-line collapsed suddenly. Rather, it struck Commager, as if he'd been about to become aware of something he wasn't yet prepared to see.

HE SUDDENLY laughed, and Paylar's short black eyebrows lifted questioningly.

"I just worked something out, Mabel!" he explained. He'd asked her earlier what her full name was, and she had told him gravely it was Mabel Jones, and that she used Paylar for business purposes only. He didn't believe her, but, for the evening, they had settled cosily on Mabel and Alan.

"The thing that's different about you," he went on, "is that you don't have a soul! So, of course, you don't have a human conscience either!" He considered a moment. It seemed, at any rate, to reflect almost exactly how he felt about her. A cat, say, was attractive, pleasant to see and to touch; and one didn't blame a cat for the squawking bird it had killed that afternoon. One didn't fairly blame a cat either if, to avenge some mysterious offense, it lashed out with a taloned paw at oneself! He developed the notion to Paylar as well as he could without violating the rule against shop-talk.

The cat-woman seemed neither amused nor annoyed at his description of her. She listened attentively and then said, "You could still join us, Alan —"

"Lady," said Commager, astonished, "there are any number of less disagreeable suggestions you could have made at this hour!" He added, "Leaving out everything else, I don't like the company you keep."

Paylar shrugged naked tanned shoulders. Then her gaze went past him and froze briefly.

"What's the matter?" he inquired.

She looked back at him with a rueful smile. "I'm afraid you're going to see a little more of my company now," she remarked. "What time of night is it, Alan?"

COMMAGER checked. It was just past midnight, he told her, so it wasn't surprising that this and that should have started crawling out of the woodwork. He turned his head.

"Hello, Oracle!" he said cordially. "What do you see in the tea leaves for me?"

Ruth MacDonald looked a little out of place here in a neat gray business suit. For a moment, she had also looked uncomfort-

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ably like a resurrected corpse to Commager, but she was alive enough.

She glanced at him. "I see your death," she said unsmilingly.

Commager told her that she appeared to be in a rut, but wouldn't she sit down and have a drink? The ice-faced young siren didn't share Paylar's immunity in his mind — she made his flesh crawl; she was something that should be stepped on!

Paylar stood up. "You're fools," she said to Ruth MacDonald without passion. She turned to Commager. "Alan, I should have told you I intended to drive back with Ruth —"

It was a lie, he thought, but he didn't mind. The expression of implacable hostility on Ruth MacDonald's face had been gratifying — Paylar's friends were becoming really unhappy about him!

The gray car stood almost at the far end of the dark parking lot where he had left his own. He walked them up to it and wished them both good night with some solemnity. "You, too, Miss MacDonald!" he said, which gained him another brief glance and nothing more. Then he stepped aside to let them back out.

WHEN HE stopped moving, there was no particular psychic ability required to guess what was pushing against the back of his spine. "We're taking the next car," Herbert Hawkes's voice announced gently behind him. "And I'm sure we can count on you to act reasonably this time, Mr. Commager!"

It was rather neat, at that. The gray car was moving slowly away, racing its engine. If there had been anyone in sight at the moment — but there wasn't — a back-fire wouldn't have created any particular excitement.

"I'm a reasonable man," Commager said meekly. "Good evening, Mr. Barthold! I'm to take one of the back seats, I suppose?"

"That's what we had in mind," Hawkes admitted.

They might or might not be amateurs at this kind of thing, but they didn't seem to be making any obvious mistakes. Lex Barthold was driving, and Commager sat in the seat behind him. Hawkes sat beside Barthold, half-turned toward Commager. The gun he held pointed at Commager's chest lay along the top of the back-rest. From outside, if anyone happened to glance in, it would look as if the two of them were engaged in conversation.

Commager thought wistfully of his own gun, stacked uselessly away in his car. This was what came of starting to think in terms of modern witchcraft! One over-

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looked the simple solutions.

"I was wondering," he suggested, "what would happen if we passed a patrol-car."

Hawkes shrugged very slightly. "You might try praying that we do, Commager!"

WHETHER the possibility was bothering him or not, the big man didn't look happy. And there was a set tension about the way Lex Barthold drove which indicated an equal lack of enjoyment there. Witchcraft addicts themselves, they might feel that physical mayhem, if that was what they were contemplating, was a little out of their normal lines of activity.

Otherwise, they had brawn enough for almost any kind of mayhem, and while one needn't assume immediately that the trip was to wind up with outright murder, their attitude wasn't reassuring.

Meanwhile, he had been fascinated by the discovery that Hawkes sported a large, discolored bruise at the exact points of his neck and jaw where Commager had thought his fist had landed early Monday morning. Those "hallucinations" hadn't been entirely illusory, after all!

However, that made it a little harder again to understand what actually could have happened that night. Commager's thoughts started darting off after rather improbable explanations, such as the possibility of Ruth MacDonald's having a twin sister or a close double who had been sacrificed then — much as Knox had been — as part of the plot to drive Alan Commager out of his mind or into his grave! He shook his head. It just didn't seem very likely.

The one thing he could be sure of right now was that Hawkes, who mightn't be the most genial of men at best, hadn't appreciated that sneak punch.

They didn't pass any patrol-cars. . .

IX

HE KILLED Herbert Hawkes not a quarter of a mile away from his own Bayside cabin. The location wasn't accidental. Once they were past the point of possible interference, with the last fifty yards of a twisting, precipitous goat-path down to the Bay behind Commager and a gun still in front of him, Hawkes took time out to explain.

"We're counting on your being found," he said, "and this is your own backyard, so to speak. You've gone fishing now and then from that spot down there, Commager. Tonight, being a little liquored up, you decided to go for a swim. Or you slipped and

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fell from all the way up here and died instantly."

Commager looked at the gun. "With a couple of bullets in me?"

"I don't think it will come to that." Both of them, in spite of Hawkes's bland analysis of the situation, were still as nervous, Commager suspected, as a couple of cats in a strange cellar. "But if it does — well, you ran into a couple of rough characters out here, and they shot you and threw you in! Of course, we'd prefer to avoid that kind of complication."

He paused as if expecting some comment. They both stood about eight feet away, looking at Commager.

The Moon was low over the Bay, but it was big, and there was plenty of light for close-range shooting. This was a lumpy shelf of rock, not more than twenty by twenty feet, long and wide; the path dropped off to the right of it to another smaller shelf and ended presently at the water's edge, where there was a wet patch of sand when the tide was out.

The only way up from here was the path they'd come down by, and the two stood in front of that. He couldn't read Barthold's expression just now, but Hawkes was savagely tense — a big man physically confident of himself, mentally prepared for murder, but still oddly unsure and — expectant!

THE EXPLANATION struck Commager suddenly: they were wondering whether he wasn't going to produce some witchcraft trick of his own in this emergency! It was such an odd shifting of their original roles that it startled a snort of rather hysterical mirth from him; and Hawkes, in the process of handing the gun to Barthold, tried to jerk it back, and then Commager moved.

He didn't move toward Hawkes but toward Barthold, who seemed to have a better hold on the gun. They might have thought he was after it, too, because Hawkes let go and swung too hastily at him, as Barthold took a step back. Commager slammed a fist into Barthold's body, swung him around between Hawkes and himself, and struck hard again. The gun didn't even go off.

He had no more time then for Barthold, because Hawkes rammed into him with disconcerting solidness and speed. In an instant, it was like fighting a baboon, all nails and muscles and smashing fists and feet. The top of Hawkes's skull butted his mouth like a rock. Commager hit him in the back of the neck, was free for a moment and hit again. Hawkes stepped back, straightening slight-

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ly, and Commager followed and struck once more, in the side. Then Hawkes disappeared.

It was as sudden as that! Realization that he was stumbling on the edge of the rock shelf himself came together with a glimpse of the thundering white commotion of surf almost vertically beneath him — a good hundred and fifty feet down.

With a terrible trembling still in his muscles, he scrambled six feet back on the shelf and glared wildly around for Lex Barthold. But his mind refused to turn away from the thought of how shockingly close he had come to going over with Hawkes; so a number of seconds passed before he grasped the fact that Barthold also was nowhere in sight.

COMMAGER'S breathing had slowed gradually, while he stared warily up the trail to the left. The noise of the water would have covered any sounds of either stealthy withdrawal or approach; but since Barthold seemed to have preferred to take himself and the gun out of the fight, it was unlikely he would be back.

On the other hand, there were a number of points on that path where he could wait for Commager to come within easy range, while he remained out of immediate physical reach himself.

To the right, the trail led down. Commager glanced in that direction again and, this time, saw the gun where it had dropped into the loose shale of the shelf.

Lex Barthold was lying on his back among the boulders of the next shelf down, his legs higher than his head, the upper part of his body twisted slightly to one side. He had fallen only nine feet or so, but he wasn't moving. They looked at each other for a moment; then Commager safetied the gun and put it in his pocket. He went on down.

"Hawkes went over the edge," he said, still rather dazed. "What happened to you?"

Barthold grunted. "Broke my back!" He cursed Commager briefly. "But you're a dead man, too, Commager!"

"Neither of us is dead yet," Commager told him. He felt physically heavy, cold and tired. He hesitated and added, "I'm going to go and get help for you."

Barthold shook his head slowly. "You won't get back up there alive. We've made sure of you this time. . ." He sounded matter-of-factly certain of it, and if he felt any concern about what would happen now to himself, there was no trace of it in his voice.

Commager stared down at him for a moment wondering, and then looked around.

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SURF CRASHED rhythmically below them; the Moon seemed to be sliding fast through clouds far out over the Bay. Overhead, the broken, sloping cliffs might conceal anything or anybody. The feeling came strongly to him then that in this savage and lonely place anything could happen without affecting the human world at all or being noticed by it.

The night-lit earth seemed to shift slowly and giddily about him and then steadied again, as if he had, just then, drifted far beyond the boundaries of the reality he knew and were now somewhere else, in an area that followed laws of its own, if it followed any laws at all.

When he looked at Barthold again, he no longer felt the paradoxical human desire to find help for a man who had tried to kill him and whom he had nearly killed. He could talk in Barthold's own terms.

He bent over him. "What makes you so sure your friends have got me?"

Barthold gave him a mocking glance, but he didn't answer.

They weren't certain, Commager thought, straightening up. They were just hoping again! That something was preparing against him was an impression he'd gained himself, almost like the physical sensation of a hostile stirring and shifting in the air and the rocks about him, a secretive gathering of power. But they weren't certain!

"I think," he said slowly, "that I'll walk away from here when I feel like it." He paused, and added deliberately, "You people might last longer if you didn't try to play rough, Barthold! Except, of course, with someone like Wilson Knox."

BARTHOLD spoke with difficulty. "The reason you're still alive is that Paylar and I were the only ones who would believe you were a natural of the new mind. The first one here in twenty-three years —" His breath seemed to catch; his face twisted into a grimace of pain. "But tonight they all know that ordinary controls won't work on you, Commager! That's what makes it too late for you."

Commager hesitated. He said gently, "When did you and Paylar discover I was a natural of the new mind?"

"Sunday night, of course!" Barthold was plainly anxious now to keep him here. He hurried on, "The mistake was made five years ago. You should have been destroyed then, before you had learned anything, not placed under control!"

Commager's eyes widened slightly. Until that statement, he

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had given only a fraction of conscious attention to what Barthold was saying, the greater part of his mind alert to catch those wispy, not-quite-physical indications that something unhealthy was brewing nearby in the night. But five years ago!

"Paylar made me an offer to join your group," he pointed out. "Wouldn't that have been satisfactory?"

Barthold stared up at him. His mouth worked, but for a few seconds he made no audible reply.

"Don't wait!" he said with startling, savage intensity. "Now, or . . ." The words thickened and slurred into angry, incomprehensible mutterings. The eyelids closed.

Commager bent down and prodded Barthold's shoulder with a forefinger. The man might be dying — those last words hadn't sounded as if they were addressed to him — but there were things he had to know now. "What are you, Barthold? Aren't you a natural, too?"

Barthold's eyes opened and rolled toward him, but remained unpleasantly unfocused. "Old mind —" the thick voice mumbled. And then clearly, "You're a fool, Commager! You didn't really know anything! If the others —"

The eyes closed again.

Old mind. . . That still told him nothing. "Are the others of the old mind?"

Barthold grinned tiredly. "Why don't you ask Hawkes?"

There was a sound behind Commager like the sloshing of water in the bottom of a boat. Then he had spun around and was on his feet, his hair bristling.

HAWKES stood swaying in the moonlight, twenty feet away. Water ran from his clothes to the rocks among which he stood. Water had smeared his hair down over his face. And the left side of his head looked horribly flattened.

He took a step forward, and then came on in a swaying rush.

For a long instant of time, Commager only stared. Hawkes was dead; quite obviously, even now as he moved, he was dead — so he hadn't come climbing back up the rocks out of the sweeping tug of the waves! He —

He was gone.

Commager walked over to the point where he had seen Hawkes. The rocks were dry. He went back to Barthold, his lips still stiff with horror.

"Tell me what this was!" he said hoarsely. "Or I'll kill you now!"

Barthold was still grinning, his eyes open and wickedly alert. "A picture I let you look at — but, you see, you learn too fast! You're

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a natural. You wouldn't believe a picture now, and the old mind couldn't do anything else to you. But there are others working for us — and now —"

There was a rumbling and a grinding and a rushing sound overhead. Commager leaped back, his eyes darting up. He heard Lex Barthold screaming.

The whole upper cliff-side was moving, sliding downward. A gray-black, turning, almost vertical wave of broken rock dropping toward them. . .

X

"PEOPLE like us," Jean Bohart remarked, with an air of moody discovery, "are really pretty lucky!"

Commager went "Hm?" drowsily. Then he lifted his head to look at her. She stood beside the Sweet Susan's lashed wheel, shaded blue eyes gazing at him from under the brim of her yachting cap, hands clasped behind her. "What brought that to mind?" he inquired.

"I was thinking about my troubles," she said. "Then I started thinking they weren't really so bad! Comparatively —"

She was keeping her voice light. Commager sat up from where he'd stretched himself out beside the cabin, gathering his thoughts back out of the aimless diffusion of sleep. "Ready to talk about your troubles now?"

Jean shook her head. "Not yet." She frowned. "There's something about them I want to figure out by myself first — and I'm not quite done." The frown vanished. "If you've finished your nap, you might look around and see what a grand morning it is! That's what I meant by being lucky."

They were off Dana Point, he saw, so he'd slept a full hour since Jean had taken them out of the Newport Beach harbor. The Sweet Susan was running smoothly southward, through the Pacific's long smooth swells. Now that he was sitting up, the wind streamed cool about his head and neck and shoulders.

He said, "Yes, I guess we're lucky."

Jean grinned. "And since I've got you awake, I'll catch a nap myself! Not that I spent the night boozing and brawling."

Commager smiled at her. "Any time you feel like putting in a night like that, give me a ring."

Superficially, in her white slacks and thin sweater, Jean Bohart looked fresh as a daisy; only the tautness about her mouth and a controlled rigidity in the way she stood suggested that the "trouble" might be close to a complete emotional disaster.

He'd thought earlier that he would have liked to get out of

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this jaunt if he could; now he felt guilty and a little alarmed.

HE MOVED over near the wheel while she lay down on the bench, pulling a pillow under her head and settling back with the cap-brim down over her eyes. He could tell that the muscles of the slim straight body weren't actually going to relax. But she would pretend now to be asleep and Commager let his thoughts shift away from Jean, promising himself to give her his full attention as soon as she was ready to talk.

There were a few problems of his own to be considered, though at the moment he had the sense of a truce, a lull. Last night, he had shaken the Guides badly; he had killed two of their members. But there were at least three left, and he hadn't crippled their power to act.

The truce, if it was that, was due in part to their fear of his reaction and in part to an entirely different kind of restraint — a restraint which he believed was self-imposed.

The reason he believed it was that he was now aware of being under a similar restraint himself. He thought he knew why it was an inescapable limitation, but impersonally he could agree with Paylar's opinion that, from the Guides' point of view, he should have been destroyed as soon as they became aware of him.

Left to himself — if in curiosity he had begun to investigate psi — he would have discovered the limitation quickly enough and abided by it. Even so, it appeared to permit an enormously extended range of effective activity. And Barthold had implied a conflict between an "old mind" and a "new mind."

It sounded like an esoteric classification of varying degrees of human psi potential — an ascendant individual "new mind" threatening the entrenched and experienced but more limited older group, which compensated for its limitation by bringing functioning members of the "new mind" under its control or repressing or diverting their developing abilities.

He, apparently, was a "natural of the new mind." He couldn't be permanently controlled. To the older group he represented an intolerable threat.

SOME ONE, last night, had thrown a few thousand tons of stone at him! And he had deflected that missile from its course. Not by very much, but just enough to keep it clear of the frantically scrambling figure of himself, scuttling up the cliff path like a scared beetle.

He had done it — how?

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Trying to restructure the action, Commager knew that the process itself hadn't been a conscious one. But it had been symbolized in his awareness by a cluster of pictures that took in the whole event simultaneously.

A visualization of himself and the long thundering of the rocks, the sideward distortion of their line of fall, and a final picture again of himself as he reached the top of the cliff unharmed.

It had all been there, in a momentary, timeless swirling of possibilities against the background of rock and shadow, the tilted, turning sky and moonlight glittering on racing waters.

Then, in an instant, the pattern had been set, decided on; and the event solidified into reality with the final thudding crash. Barthold lay buried under the rocks and perhaps, down in the water, the body of Hawkes also had been caught and covered.

He hadn't tried to save Barthold. Instead, automatically, he had flung out another kind of awareness, a flashing search for the mind that had struck at him. And he had been prepared, in a way he couldn't have described now, to strike back.

He "found" three of them; the one who had acted and two who merely observed. Almost, not quite, he knew where they were. But they were alert. It was as if something, barely glimpsed, had been flicked out of his sight, leaving a lifeless black emptiness for him to grope through if he chose.

Commager didn't choose to do any blind groping. He wasn't sure enough of himself for that.

THE LIMITATION that he — and, apparently, they — didn't dare to violate had to do with the preservation of appearances. It was a line of thought he didn't want to follow too far just now. But it seemed that the reality he knew and lived in was a framework of appearances, tough and durable normally but capable of being distorted into possibly chaotic variations.

The penalty seemed to be that to the degree one distorted the framework, he remained distorted himself. The smooth flow of appearances was quickly re-established, but the miracle-worker found himself left somehow outside. Commager suspected that he stayed outside.

He suspected also that a really significant distortion of appearances would thrust the life and mind that caused it so far out that, for all practical purposes, it ceased to exist.

He wasn't tempted to test the theory. Its apparent proof was that reality, by and large, did remain intact, while those who played around too consistently

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with even minor infringements notoriously failed to thrive.

To let a pair of dice briefly defy the laws of chance probably did no harm to anyone, but when you aimed and launched the side of a cliff as a missile of murder, you were very careful that the result was a rock-slide and not a miracle!

You didn't — ever — disturb the world of reality. . .

WHAT HE had to fear from them, if they broke the truce, was the ambush, the thing done secretly under the appearance of a natural series of events. It left an unpleasantly large number of possibilities open, but until something new happened, he couldn't know that they weren't ready to call it a draw. So far, his spontaneous reactions had been entirely effective; the obvious damage was all on the other side.

But since the damage wasn't all obvious, he had no present intention of forcing a showdown. "Natural" or not, he might be either not quite good enough at that kind of game, or much too good.

But meanwhile — Commager looked thoughtfully at Jean Bohart. She had fallen asleep finally, but she wasn't sleeping comfortably. Her mouth moved fretfully, and she made small whimpering sounds from time to time, almost like a puppy that is dreaming badly. If he'd become a miracle-worker on a small scale, Commager thought, if he'd already pushed himself to some degree beyond the normal limits of reality, he might as well get some use out of what he couldn't undo.

Looking at her, it wasn't too difficult to imagine the rigidities and tensions that kept Jean from finding any real physical rest. Nor — a step farther — was it hard to get a picture of her emotional disturbances shaping themselves into a scurrying and shifting dream-torment.

Carefully, Commager took hold of the two concepts. He waited until he could no longer be quite sure whether it was he or Jean who was really experiencing these things; and then, as he had done yesterday with the pain in his own body, he let dreams and tensions ebb away and cease to be.

In spite of everything else that had happened, he was still amazed, a few moments later, to realize that his experiment in therapy had been a complete success.

XI

CLEAR BLUE bowl of the sky above. Black-blue choppy water of the Pacific all about.

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The Sweet Susan drifted, throttled down and almost stationary. Near the kelp beds two miles to the south, eight other boats gradually changed their relative positions. In the north-east, toward which the Sweet Susan slowly moved, the dark jaws of the Bay opened out, still too far off to make out the scars of last night's rock-slide.

Jean had slept steadily for over an hour, and Commager had two lines trailing under superficial observation. Not even a mackerel had taken any interest so far, which probably wasn't due to the sinister influence of the Guides, but to the fact that the deep drop outside the Bay simply wasn't a very good fishing area.

Unconcerned about that, he'd been sitting there for some while, in a drowsy, sun-bright daydream composed of an awareness of physical well-being, his odd certainty that the truce still held, and enjoyment of the coincidence that the Sun was getting hotter to the exact degree that the breeze got brisker in compensation. For the hour, under such circumstances, the life of an unambitious, healthy animal seemed to be about as much as anybody reasonably could ask for.

He came out of it with a sort of frightened start. He had heard Jean stirring on the bench behind him. Now she yawned, just audibly, and sat up, and he knew she was looking at him.

Commager couldn't have said what kept him from turning his head. There was a momentary questioning alarm in him, which stiffened into cold watchfulness as Jean got up and went into the cabin. There had been another little shift in the values of reality while he was off-guard, he thought. Something was a shade wrong again, a shade otherwise than it had been an hour or so ago. But he didn't yet know what it was.

IN A MINUTE or so Jean came out again, and he guessed she'd changed into her swimsuit. He heard her come up behind him, and then a pair of smooth arms were laid lightly across his shoulders and a voice, from a point a little above and behind his head, inquired, "Had any luck, Alan? The Sun got a bit too hot for me."

It shocked him completely because it was Lona who touched him and spoke.

It was also, of course, Jean Bohart — and there was no longer any question that she'd served as the model for his imaginary woman. It had been out of just such scraps of illusion as this — voice sounds and touches, distorted seconds in time — that he'd built up that self-deception.

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How he had been reached in the first place to get him started on the construction was something he couldn't yet recall, but the purpose was also completely obvious.

Five years ago, Lex Barthold had said, they'd taken him under control.

To divert a mind from a direction you didn't want it to follow, you gave it a delusion to stare at.

You drenched the delusion in violently unpleasant emotions, which kept the mind from any closer investigation of the disturbance —

Apparently, they'd expected the treatment to be effective for the rest of his lifetime. But when Ira reported on the minor sensation Commager had created in a Las Vegas club, they'd come alert to the fact that his developing psi abilities hadn't been permanently stunted. And then a majority of them had been afraid to attempt to kill a "natural."

Unconsciously, he'd resisted the next maneuver — drastic as it had been — to throw him into a delusive tizzy.

Then he'd begun to strike back at them.

It wasn't really surprising, he thought, that they'd become a little desperate. And they might have known of that dice game before Ira told them about it. Ira had been their means of contacting him directly.

As Jean had been the means of keeping the primary delusion reinforced and alive.

"NO LUCK, so far!" he told her, somewhat carefully. The momentary shock of recognition had faded, but some of the feeling he'd wasted on the delusion seemed to have transferred itself back to the model now! It didn't really surprise him, and it wasn't an unpleasant sensation; but, for a moment, at least, he didn't want it to show in his voice. "Did you get caught up on your sleep?"

It might have showed in his voice, because she moved away from him and leaned over the side of the boat, looking at the lines. "Uh-huh!" she said casually. "I feel fine now! Better than I have in a long time, as a matter of fact."

Commager regarded her speculatively. The easy grace of her body confirmed what she said; the tensions were gone. He patted himself mentally on the back. Commager the Healer!

"Alan?"

"Yes?" he said.

"I'm leaving Ira." Her face flushed a little. "To be more exact about it, Ira's leaving me! For that MacDonald woman you met Sunday!"

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Commager said softly that he'd be damned. His thoughts were racing as she went on, "He told me yesterday morning. It jolted my vanity, all right! But the funny thing is, you know, that as soon as I got over that, I found I actually didn't care. It was really a relief. Isn't that funny?"

He didn't think it was funny. It was a little too pat.

"FOR FIVE years," she said, turning to face him, "I thought I loved that guy. And now I find I never did!" She shook her head. "I don't get it, Alan. How can anyone be so crazy?"

"What are you going to do?" he asked.

She stared at him for a moment, looking appealing, hurt and lovely. If he put his hand out to her now, she'd be in his arms.

"I'm going to Florida for a few months. Ira can settle it any way he wants to."

So that was the way it had been, Commager thought in astounded fury. He was the one they'd wanted to hold down, but it wasn't only his life they'd twisted and distorted to do it. They'd used Jean just as ruthlessly. And, perhaps, Ira —

For five years, he could have had his imaginary woman. She'd been within his reach in reality.

And, now that delusions were not working so well any more, they threw the reality at him!

Only now it was a little too late. He'd changed too far to be able to accept their gift.

"Jean," he said.

"Yes, Alan?"

"You're going to stop thinking for a while now," he told her gently. "You're going to just stand there for a while and not be aware of anything that happens."

A puzzled frown formed on her face as he started to speak, but it smoothed out again, and then she went on looking placidly at him. Perhaps her eyes had dulled a trifle.

THIS TIME, it didn't surprise Commager at all. Out beyond the Sweet Susan, he saw something like a faint haze beginning to shape itself over the moving surface of the water. He grinned a little.

Slowly and deliberately, he framed the cold thought in his mind: *Do what you can for yourselves! The truce is over!*

Their response was an instantaneous one. A long swell rose up behind the Sweet Susan, lifted the boat, passing beneath it, and dropped it again. The Sweet Susan was still rising as Commager picked up Jean Bohart and set her down beside the bench near the wheel; and it slapped down in a smash of spray

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as he cut the lashings of the wheel with the emergency knife and pulled out the throttle.

He glanced around. The haze was a thick fog about them, brilliant white against the blue of the sky overhead, while they ran through its wet, gray shade. The boat shuddered sideways behind the big swell, water roiling about it. Suddenly, with a kind of horror, Commager understood what was there.

He had seen pictures of it, or rather of a part of it, cast up on the coast years before: a house-sized chunk of rotten, oddly coarse-grained flesh, hurriedly disposed of and never identified. The drifted remnant of a nameless phenomenon of the Pacific deeps.

The phenomenon itself was underneath them now!

STILL TOO far down to have done more than briefly convulse the surface as it turned, it was rising toward the boat. A thing of icy, incredible pressures, it was disrupted and dying as it rose, incapable of understanding the impulse that had forced it from the dark ocean up toward the coast hours before. But it was certain that, in the bright glare above it, it would find and destroy the cause of its pain.

So it came up with blind, hideous swiftness; and Commager discovered that rushing bulk could not be simply turned away from them as he had turned the rocks. It was driven by its own sick and terrible purpose. Neither could he reach the minds that guided it. This time, they were alertly on guard.

With seconds to spare then, he turned the boat.

In the fog to their left, the sea opened in a thundering series of crashes and settled again. Water smashed into the boat as it danced and drove raggedly away, and before it had gone very far it was lifted once more on a thrust of water from below.

The thing from the sea had followed, and it was terribly close! So close that the flickering dull glow of a mind as primitive as the monstrous body itself rose up in Commager's awareness.

He caught at it.

What he drove into the glow was like an insistence on its destruction. It seemed to blaze up in brief, white fury and then went black. . .

The Sweet Susan drove on through a curiously disturbed sea, surrounded by dissipating wisps of what might or might not have been an ordinary patch of fog. Probably, no one on any of the distant fishing boats even noticed that minor phenomenen.

A half-mile away, the water roiled once more; and that was

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all. The Pacific had gone back to its normal behavior.

XII

IT WAS sunset on the Bay, and Paylar was talking, at least most of the time. Sometimes Commager listened and sometimes he didn't.

It was a fairy tale situation, he thought, somewhat amused at himself. Because he could feel the mood of it very strongly, a childlike one, a mood of enchantment around him and of terror along the fringes of the enchantment. Terror that was in part past, and in part still to come.

Far below the slope where they sat, sun-fires gleamed in the dark, moving waters, like fire shining out of the heart of a black jewel. Down there, as was not inappropriate near the end of a fairy tale, two of the bad ones lay dead and buried, unless one of them had been taken away by the water.

Much farther out, miles out, the body of a defeated dragon bumped slowly along the sea-bottom, back to the deeps, nibbled at, tugged at, pulled and turned by armies of hungry fish.

A blonde and beautiful princess was halfway to the far land of flowers called Florida by now, flying through the night skies, and released at last from an evil enchantment. She might still wonder at how oddly she'd acted the past few years, but she'd begun to look forward to new and exciting activities — and she was rapidly forgetting Alan Commager in the process.

It had been the only way to arrange it, because this was a trap of magic Jean had no business being in, and she'd been in it only because of him. He'd got himself the other one, the dark, beautiful, wicked witch, to keep company instead.

So Paylar talked of magical things, and he listened, pleasantly fascinated and willing for an hour to believe anything she told him. Earth turned under them, vast and ponderous, away from the Sun and into the night, a big, convincing stage background to what she was talking about.

ALL EARTH life, she said, was a single entity, growing and developing from this great globe, and its conscious thinking processes went on mainly in that part of it that was human. Which was fine, she explained, while all humans were still Old Mind, as they had been at first, because they were aware of Earth and cared for it, knowing they were a part of it, and that it all belonged together. But then New Mind humans came along, as a natural development. They could

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think a little better than the others, but they were no longer aware of being a part of Earth life and didn't care about anything much but themselves, since they considered themselves to be individuals.

It didn't matter too much. They were still influenced by the purpose and patterns of Earth life, and had practically no conscious defenses against what seemed to them to be obscure motivations of their own. And there were always enough Old Mind people around who knew what was going on to direct the rather directionless New Minders patiently back to the old patterns, so that in the long run things tended to keep moving along much as they always had done.

It began to matter when New Minders developed a conscious interest in what was now called psi. That was an Earth life ability which had its purpose in keeping the patterns intact; and only the New Mind, which had intelligence without responsibility, was capable of using psi individualistically and destructively.

In most periods of time, the New Mind was kept from investigating psi seriously by its superstitious dread of phenomena it couldn't rationalize. But when it did get interested —

In the Old Mind, adherence to the Earth life pattern was so complete that dangerous psi abilities simply didn't develop.

"So you see," she said, "we need New Mind psi to control New Mind psi."

COMMAGER said he'd come to understand that finally. And also that they were able to keep control of the people they used by the fact that psi abilities tended to be as deadly to their possessor as to anyone else, when employed without careful restraint. "At best, I imagine there's a high turnover rate in the New Mind section of an organization like the Guides."

"There is," she agreed coolly. "Particularly since we select the ones that are potentially the most dangerous as recruits. The ones most hungry for power. Ruth, for example, is not likely to live out another year."

Privately and thoughtfully, Commager confirmed that opinion. "Doesn't that unusual mortality attract attention?" he inquired. It seemed a little tactless, but he added, "What about Hawkes and Barthold, for example? Aren't they going to be officially missed?"

"Hawkes was known to be nearly psychopathic," Paylar replied. "Whatever happened to him will surprise no one officially. And no one but ourselves knew anything about Lex."

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She had showed, Commager thought, an appalling indifference to the fate of her late companions. He studied her for a moment with interested distaste. "You know," he remarked then, "I don't feel any very strong urges for power myself. How does that fit in with your story?"

She shrugged. "A natural is always unpredictable. You have a blend of Old Mind and New Mind qualities, Alan, that might have made you extremely useful to us. But since you didn't choose to be useful, we can't take a chance on you."

He let that pass. "Where do people like you and Barthold come from?" he inquired curiously. "How did you get involved in this kind of thing?"

SHE HERSELF came, she said, from a mountain village in northern Italy. Its name was as unimportant as her own. As for the role she was playing, in part she'd been instructed in it, and in part she'd known instinctively what she had to do. She smiled at him. "But none of that is going to concern you very much longer, Alan!"

She sounded unpleasantly certain about it. Although he thought he could foretell quite precisely what was going to happen tonight, Commager felt a little shaken. He suggested, "What would happen if people like myself were just left to do as they pleased?"

"Earth would go insane," she said calmly. The extravagance of the statement jolted him again, but he could see the analogue. The Old Mind was full of fears, too — the fear of chaos.

"That offer you made me to become one of the Guides — was that a trap, or was it meant sincerely?"

Her face abruptly became cautious and alert. "It was meant sincerely."

"How could you have trusted me?"

She said evasively, "There was a great deal you could have learned from us. You have discovered some of the things you can do by yourself, but you realize the dangers of uninstructed experimentation."

He looked at her, remembering the limitations of Old Mind and that, because of them, there couldn't be any real compromise. He didn't doubt they would have showed him what was safe to do and of use to them; but the only circumstances under which they really could trust him would be to have him so befuddled that he'd be almost completely dependent on their assistance and advice. So they would also have showed him things that were very much less than safe — for him.

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He thought that Herbert Hawkes had followed that road almost to the end before he died, and that Ruth MacDonald was rather far advanced on it by now. Those two had been merely greedy and power-hungry people, utilizing talents which were more expensive than they'd been allowed to guess. Lex and Paylar had been the only leaders among the ones he'd met of that group.

He didn't bother to repeat his question; but Paylar said suddenly, "Why did you bring me out here this evening, Alan?"

"I THOUGHT I might find what was left of the Guides at Hawkes' place," Commager said. "I was a little annoyed, frankly, both because of something that happened today, and because of something that was done a while ago to somebody else. I was going to tell you to stop playing games around me and people I happen to like — or else!"

He grinned at her. "Of course, I realized you weren't going to risk a showdown right in the middle of town! It could get a little too spectacular. But since you were conveniently waiting alone there for me, I brought you out here."

"Supposing," Paylar said, "that we don't choose to accept a showdown here either?"

"Lady," he told her, "if it looks as if nothing is going to be settled, there are experiments I can start on with you that should have you yelling very quickly for help to any Guides remaining in the area. As I figure it, you see, a New Mind natural might be able to control an Old Mind expert very much as you intended to control me."

She went a little white. "That could be true. But you can't hope to survive a showdown, Alan!"

He spread his hands. "Why not? Logically, at least, I don't think there are very many of you left." He was almost certain he knew of one who hadn't openly played a part as yet, but he didn't intend to mention that name at the moment. "It wouldn't take more than a handful of developed New Mind psis to control an area like this. And you wouldn't want more than a handful around or you couldn't be sure of controlling them!"

She nodded. "That's also true, of course. But you're still at a hopeless disadvantage, Alan. We — the Old Mind knows exactly how this situation can be resolved in our favor, if we're prepared to lose a few more of our controlled psis. . ."

"The psis mightn't feel quite so calm about it," Commager pointed out. He hesitated. "Though I suppose you might

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have them believing by now that I'm out to eat them!"

"They've been led to consider you a deadly threat to their existence," Paylar agreed with a touch of complacency. "They'll take any risk that's required, particular since they won't understand the full extent of the risk. And that isn't all, Alan You're not the first New Mind natural we've dealt with, you know. If anything goes seriously wrong in this area, Old Mind all over the Earth will be aware of it."

HE FROWNED doubtfully at her, because he'd been wondering about that. And then he let the thought come deliberately into the foreground of his consciousness that he would prefer to reach an agreement, if it could be done. The Guides' ability to grasp what was going on in his mind seemed to be a very hazy one; but in a moment, though Paylar's expression didn't change, he was certain she had picked up that intentional piece of information.

She said, with a slow smile, "How much do you remember of your parents, Alan?"

He stared at her in surprise. "Not very much. They both died when I was young. Why?"

She persisted, "Do you recall your mother at all?"

"No," he admitted warily. "She divorced my father about two years after I was born. I stayed with him and never saw her again. I understand she died about three years later."

"And your father?" she asked him insistently.

Commager gestured patiently toward the Bay. "My father drowned out there on a fishing trip when I was eleven. I remember him well enough, actually. Afterward I was raised by a guardian. Do you mind telling me what these questions are about?"

"Your father," she said, "was of the Old Mind, Alan. So he must have known what you might develop into almost since your birth."

ODDLY ENOUGH, he found, he was immediately willing to accept that as valid information. "Why didn't he do something about his shocking little offspring?" he inquired.

"Apparently," Paylar said calmly, "he did. If he hadn't died, your special abilities might have been blocked away so completely that they would never have come to your attention — or brought you to our attention. As it was, what he did to check you was simply not sufficient."

Commager considered the possibility, and again it seemed that that was what had occurred. It

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was too long ago to arouse any particular emotion in him. He said absently, watching her, "What's all this supposed to prove, Paylar?"

"That we're not trying to control you out of malice. It seems as necessary to us now as it did to your father then."

He shrugged. "That makes no difference, you know. If more control is all you have to offer, I'm afraid we'll go right on disagreeing."

Paylar nodded. Then she just sat there, apparently unconcerned, apparently satisfied with what had been said and with things as they were, until Commager added suddenly, "I get the notion that you've just informed your little pals it's time for direct action. Correct?"

"Two of them are on their way here." She gave him her slight smile. "When they arrive, we'll see what occurs, Alan! Would you like me to show you some pictures meanwhile?"

"Pictures?" He stared at her and laughed. He was baffled and, for the moment, furious. He could, as she must realize and as he had once threatened to do, break her slim neck in one hand. The indications were that he could break her mind as easily if he exerted himself in that direction. But she seemed completely unconcerned about either possibility.

HER SMILE widened. "I caught that," she remarked. "You were really broadcasting, Alan! You won't try to hurt me. — you're really incapable of it — unless you become very frightened. And you're almost sure you can handle all three of us anyway, so you're not yet afraid. . ."

And in that, for once, she might have given him more information than she knew. Because he had sensed there had been three of them involved, two actively and one as an observer, in the last two attempts against him. Paylar, he guessed, had been the observer — supervisor might be the better term.

If those three were the only Guides that remained active locally, she was quite right: he was convinced he could handle them! And if, as seemed likely, they were going to leave him no choice about it, he would.

What Old Mind elsewhere might think or do would be another matter then. He wasn't at all sure that he couldn't handle that problem also. Another piece of information Paylar had given him in the last minute or so was that sudden flares of emotion made him "legible" to those who had her own level of ability.

He would avoid such emotional outbursts in future.

"What kind of pictures did you intend to show me?" he inquired.

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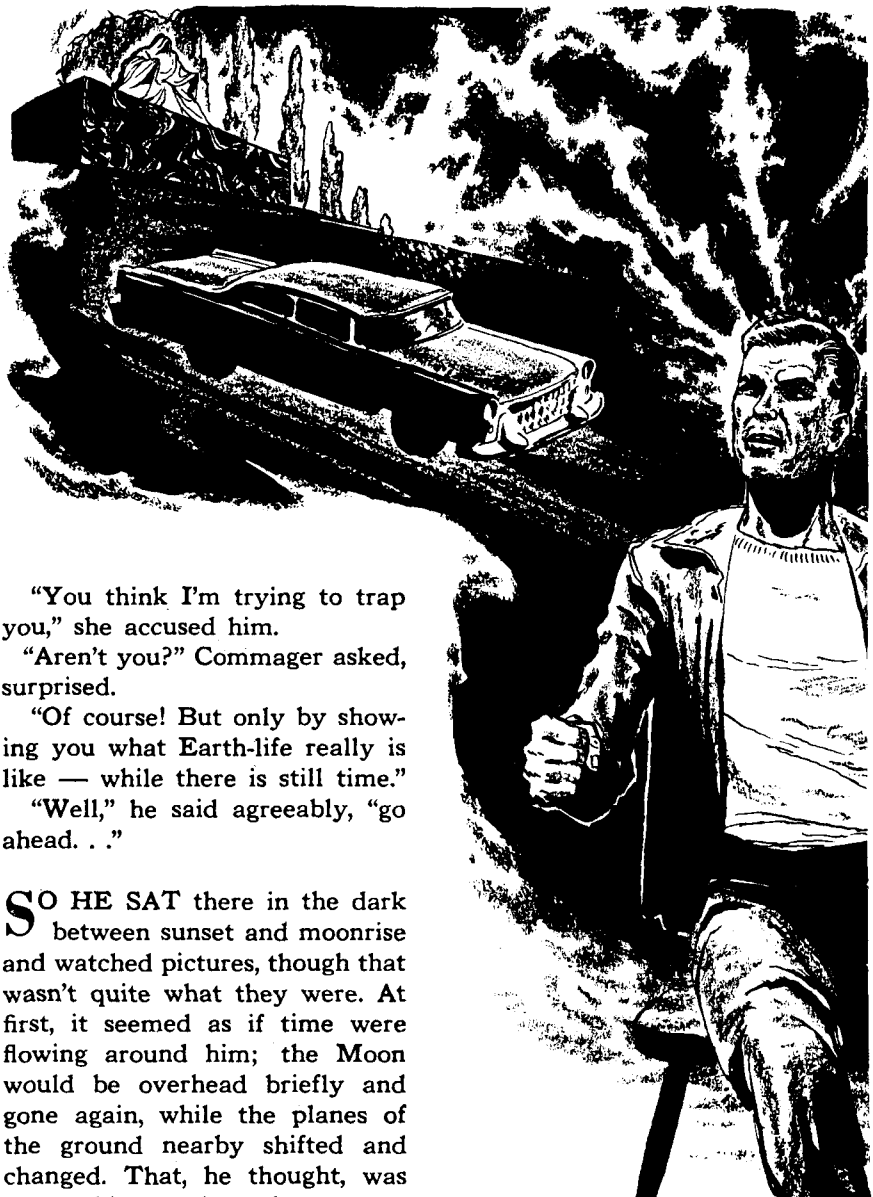

"You think I'm trying to trap you," she accused him.

"Aren't you?" Commager asked, surprised.

"Of course! But only by showing you what Earth-life really is like — while there is still time."

"Well," he said agreeably, "go ahead. . ."

SO HE SAT there in the dark between sunset and moonrise and watched pictures, though that wasn't quite what they were. At first, it seemed as if time were flowing around him; the Moon would be overhead briefly and gone again, while the planes of the ground nearby shifted and changed. That, he thought, was to get him used to the process,

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condition him a little. The trickeries would come next!

But when they came, they weren't really trickery. He was simply, Commager decided, being shown life as Old Mind knew it and as, in a way, it was; though he himself had never thought to take quite so dramatic and vivid a view of it. Laughing and crying, thundering and singing, Earth-life drifted past in terrors and delights, flows of brightness and piercing sound and of blackest silence and night.

At last, through all that tumult of light and fragrance and emotion, he began to grow aware of what to Old Mind, at least, was primarily there: the driving, powerful, unconscious but tremendous purpose. Earth dying and living, near-eternal. . .

In his mind, he found himself agreeing that it was a true picture of life and a good one.

He was a traitor to that life, Old Mind whispered to him. Earth needed him and had created him to help hold back the night and the cold forever! But the tiny, individual selfishness

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of the New Mind broke away from the flow of life and denied it.

So, in the end, all would die together —

The flow slowed. Into it crept the cold and the dark — a chill awareness of the approaching frozen and meaningless immobility of chaos.

It wasn't till then that Commager reached out carefully and altered the pictures a trifle. It had been a good show, he thought, though overly dramatic; and Paylar had timed the paralyzing emergence of chaos very nicely. The two for whom he'd been waiting had just reached the turnoff from the highway.

XIII

THE HEADLIGHTS of the car glided swiftly down the Bay Road, as he brought his awareness back hurriedly to his immediate surroundings to check on the physical condition of his companion. She sat upright a few feet away from him, her legs crossed under her, her hands dropped laxly into her lap, while the black animal eyes stared in blind horror at the frozen picture of chaos.

She would keep, he decided. And he wasn't really worried about the other two . . . Ira Bohart and Ruth MacDonald.

He reached out for them, and as they flashed savagely back at him, he drew away, out of time, into the space that was open to New Mind only, where they would have to follow if they wanted to touch him.

They followed instantly, with a furious lust for destruction which wasn't unexpected but which shocked him nevertheless. They came like daggers of thought, completely reckless, and if they succeeded in touching him in the same way he had touched the sea-thing, the struggle would be over in an instant.

It became obvious immediately that he could prevent them from doing it, which — since he was a stronger, more fully developed specimen of their own class — was only to be expected. What concerned him was their utter lack of consideration for their own survival. The car they were in hadn't stopped moving; in less than half a minute now it would be approaching the sharp curve above the Bay.

He had counted on the driver's attention being forced away from him momentarily, either to stop the car or to manipulate it safely around the curve; in that instant, he would bring the other one under his control as completely as he had trapped Paylar, and he would then be free to deal at his leisure with the driver.

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INDIVIDUALLY, any one of the Guides was weaker than a New Mind natural; it had looked as simple as that! He wanted to save what was left of the group, to operate through them very much as Old Mind had been doing, but with a very different purpose.

The two who attacked should be withdrawing by now, dismayed at not having found him paralyzed by Paylar's "pictures," as they must have expected. They might be waiting for her to come to their assistance in some other manner, not knowing that she was no longer even aware of the struggle. However, within seconds the need of controlling the car would become urgent enough to settle the issue —

In an instant, he felt himself drawn down, blinded and smothered, in the grasp of a completely new antagonist! It was not so much the awareness of power immensely beyond that of the Guides that stunned him; it was a certainty that this new contact was a basically horrible and intolerable thing. In the fractional moment of time that everything in him was straining simply to escape from it, the New Minders drove through their attack.

Pain was exploding everywhere through his being, as he wrenched himself free. Death had moved suddenly very close! Because the third opponent wasn't Paylar, never had been Paylar. He had miscalculated — and so there had been one he'd overlooked.

Now they had met, he knew he wasn't capable of handling this third opponent and the two New Minders together.

Then without warning the New Minders vanished out of his awareness, like twin gleams of light switched off. Seconds later, from somewhere far out on the edge of his consciousness, as if someone else were thinking it, the explanation came: *The car! They weren't able to stop the car!*

With that, the last of them drove at him again; and for a moment he was swept down into its surging emotions, into a black wave of rage and terror, heavy and clinging. But he was not unprepared for it now, and he struck at the center of its life with deadly purpose, his own terrors driving him. Something like a long, thin screaming rose in his mind. . .

In that moment, complete understanding came.

As in a dream scene, he was looking down into the yard of the Temple of Antique Christianity. It was night-time now; and on the dais he'd investigated the day before, a bulky, shapeless figure twisted and shook under

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a robelike cloth which covered it completely.

The screaming ended abruptly, and the shape lay still.

XIV

COMMAGER sat up dizzily. He discovered first that he was incredibly drenched with sweat, and that Paylar still sat in an unchanged position, as she stared at the thing he'd set before her mind to fix her attention. Down on the Bay Road, there was a faint shouting.

He stood up shakily and walked forward till he could look down to the point where the road curved sharply to the left to parallel the Bay. The shouting had come from there. A few people were moving about, two of them with flashlights. Intermittently, in their beams, he could see the white, smashed guard railings.

A brief, violent shuddering overcame him, and he went back to where Paylar sat, trying to organize his thoughts. The reason for her confident expectance of his defeat was obvious now.

The unsuspected opponent — the gross shape that had kicked about and died on the dais, the woman he'd known as Mrs. Lovelock — had been another New Mind natural. Or, rather, what had become of a New Mind natural after what probably had been decades of Old Mind control! But that part wasn't the worst of it.

I met her and talked to her! he thought in a flash of grief and horror. *But I couldn't guess —*

He drove the thought from his mind. If he wanted to go on living — and he realized with a flicker almost of surprise that he very much did — he had other work to complete tonight. A kind of work that he'd considered in advance as carefully as the rest of it —

And this time, he thought grimly, he'd better not discover later that he'd miscalculated any details.

He sat down and rolled over on his side in the exact place and position in which he'd been lying before. Almost the last thing he saw was the sudden jerky motion of Paylar's body, as he dissolved the visual fixation he'd caught her attention in. Then, as she turned her head quickly to look at him, he closed his eyes.

WHEN Commager's mind resumed conscious control of his body, there was a cloudy sky overhead and a cool gray wetness in the air. Paylar stood nearby, looking thoughtfully down at him.

He looked back at her without speaking. The terrifying conviction of final failure settled

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slowly and dismally on him.

"You can wake up fully now," she told him. "It's nearly morning."

He nodded and sat up.

"What I shall tell you," her voice went on, "are things you will comprehend and know to be true. But consciously you will forget them again as soon as I tell you to forget. You understand?"

Commager nodded again.

"Very well," she said. "Somewhere inside you something is listening to what I am saying; and I'm really speaking now to that part of you — inside. Here and tonight, Alan, you very nearly won, though of course you could not have won in the final issue. But you must understand now, consciously and unconsciously, that you have been completely defeated! Otherwise, you would not stop struggling until you had destroyed yourself — as thoroughly as another one, very like yourself, whom you met tonight, did years ago!"

She paused. "You know, of course, that the New Mind natural you killed tonight was your mother. We counted on the shock of that discovery to paralyze you emotionally, if all else failed. When it happened, for the few seconds during which the shock was completely effective, I was released by others of the Old Mind from the trap in which you had caught me."

She smiled. "That was a clever trap, Alan! Though if it hadn't been so clever, we might not have needed to sacrifice your mother. In those few seconds, you see, I planted a single, simple compulsion into your mind — that when you pretended afterward to become unconscious — as it appeared you were planning to do to deceive the Old Mind — your consciousness actually would blank out."

HE TRIED TO remember. Something like that had occurred! He had intended to act as if the struggle with the New Minders had exhausted him to the point where it was possible for Paylar to take him under complete control, since only in that way could he be safe from continuing Old Mind hostility. But then —

He had no awareness of what had happened in the hours that followed till now!

"You see?" Paylar nodded. There was a trace of compassion, almost of regret, in her expression. "Believe me, Alan, never in our knowledge has a functioning human mind been so completely trapped as you are now! I have been working steadily on you for the past six hours, and even now it would be impossible for you

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to detect the manner in which you are limited. But within minutes, you will simply forget the fact that any limitations have been imposed on you, and so you will remain free of the internal conflicts that destroyed your mother."

She paused. "And here is a final proof for you, Alan, of why this was necessary for us. You recalled that your father drowned in this Bay when you were a child. But as yet you seem to have blocked out of your memory the exact manner in which he died —"

Her voice changed, grew cold and impersonal. "Let that memory come up now, Alan!"

THE MEMORY came. With it came memory of the shocking conflict of emotion that had caused him to bury the events of that day long ago. But it aroused no emotional response in him now. It had been a member of an alien, hostile species he had compelled to thrust itself down into the water, until the air exploded from its lungs and it sank away and drowned . . . of the same hostile species as the one talking to him now.

"Yes," she said. "You drowned him, Alan, when you first became aware of the mental controls he had imposed on you. And then you forced yourself to forget, because your human conditioning made the memory intolerable. But you aren't truly human, you see. You are an evolutionary mistake that might destroy the life of all Earth if left unchecked!"

She concluded, "It has taken all these years to trap you again, under conditions that would permit us to impose controls that no living mind, even in theory, could break. But the efforts and the risks have been well worthwhile to Old Mind! For, you see, we can use your abilities now to make sure there will be no trouble from others of your kind for many years to come. And we can, as the need arises, direct you to condition others of your kind exactly as you have been conditioned . . . But now" — a flat, impersonal command drove at him again through her voice — "forget what I have told you! All of it!"

And, consciously, the mind of Commager forgot.

HE HAD DONE, he thought, as he watched his body stand up and follow the woman up the path to his cabin, a superbly complete job of it!

What identity might be remained an intriguing problem for future research, though perhaps not one that he himself would solve. For practical purposes, at any rate, the identity of Alan

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Commager was no longer absorbed by the consciousness that rose from and operated through his brain and body.

And that was the only kind of consciousness Old Mind knew about. He was hidden from Paylar's species now because he had gone, and would remain permanently, beyond the limits of their understanding.

He directed an order to the body's mind, and the body stumbled obediently, not knowing why it had stumbled. Paylar turned and caught its arm, almost solicitously, steadying it.

"You'll feel all right again after a few hours rest, Alan!" she told it soothingly.

Species as alien almost as a cat or a slender, pretty monkey, but with talents and purposes of her own, Paylar was, he thought, an excellent specimen of the second highest development of Earth evolution.

He reached very carefully now through the controls he had imposed on her consciousness to the core of her being, and explained gently to her what he had done.

For a few seconds, he encountered terror and resistance, but resignation came then, and finally understanding and a kind of contentment.

She would help him faithfully against Old Mind now, though she would never be aware of doing it.

And that, he thought, was really all for the moment. The next step, the development of New Mind psi in others, was an unhurried, long-term project. In all the area within his range, Old Mind control had stifled or distorted whatever promise originally had been present.

BUT THE abilities were ever-recurring. And here and there, as he became aware of them now, their possessors would be contacted, carefully instructed and shielded against Old Mind spies. Until they had developed sufficiently to take care of themselves and of others. Until there were enough of them.

Enough to step into the role for which they had been evolved — and which the lower mind had been utterly unable to comprehend. To act as the matured new consciousness of the giant Earth-life organism.

— JAMES H. SCHMITZ

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(*Continued from page 4*)
practically over the dead bodies of the whole company.

Next time was as we were crossing the Pacific. Again the first sergeant challenged me and again the sensation paralyzed me. I said the war in the Pacific would end August 13th, but this time I was smarter — I wanted two-to-one odds and a month either way. The actual date was the 14th and he was glad to pay off.

But then the men wanted to know when they were getting home. I truthfully told them I didn't know when *they* were leaving, but I was going back in February. Until just recently, I thought I'd missed once more and sailed in March — until I came across the ship's paper. It was dated February 16th. What I didn't foresee was that I'd be coming home on an emergency furlough to find my father dying.

Those and others were my successes, if you want to call it that, in precognition. Now before some financial paper puts in a bid, let me enter on the record that I had exactly the same feeling on different occasions and was as wrong as any market analyst.

What do you do with a thing like that? Apparently it takes great tension to get the data, like working up a wicked electrical potential to spark a gap — in these cases, a gap of four to six months. Do we test only when the potential exists? Or will we find a way of creating it by some kind of emotional dynamo? If that's it, I won't be a volunteer and I pity those who are — it *hurts* even when the answer is wrong.

I've had the usual "triumphs" in telepathy that I imagine all of us have experienced. Here, however, the anguish seemed to have been required of the broadcasters. Nothing happened till there was strong emotion. And then I pieced together one letter or syllable after another until it was complete — when it was, which was far from always, though too frequent and near-right to be all chance.

Impressive, no doubt, but not as much as the headache and weariness. A telegram would be a lot easier and more dependable. As far as I'm concerned, my motto is: "Don't telepath — telegraph!" What's still more annoying is that I haven't found a way to know my thoughts from those of others. It's cost me money in card games, too!

Psi is a nuisance. Every editor knows and dreads theme cycles, when writers all over simultaneously turn to the same idea.

Right now, it's psi. I wish they'd pstop. I'm psick of psi. Come on now — aren't you?

— H. L. GOLD

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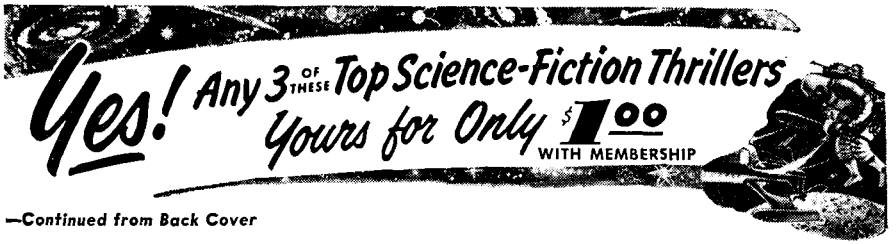

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